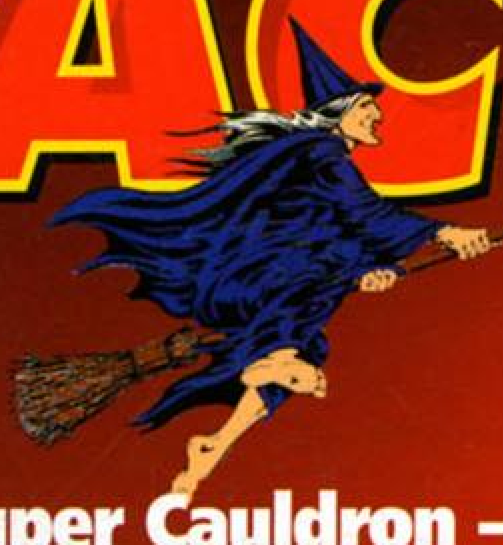
If you've got a CPC, this is the only other thing you need

AMSTRAD ACTION

ISSUE No.93
June 1993
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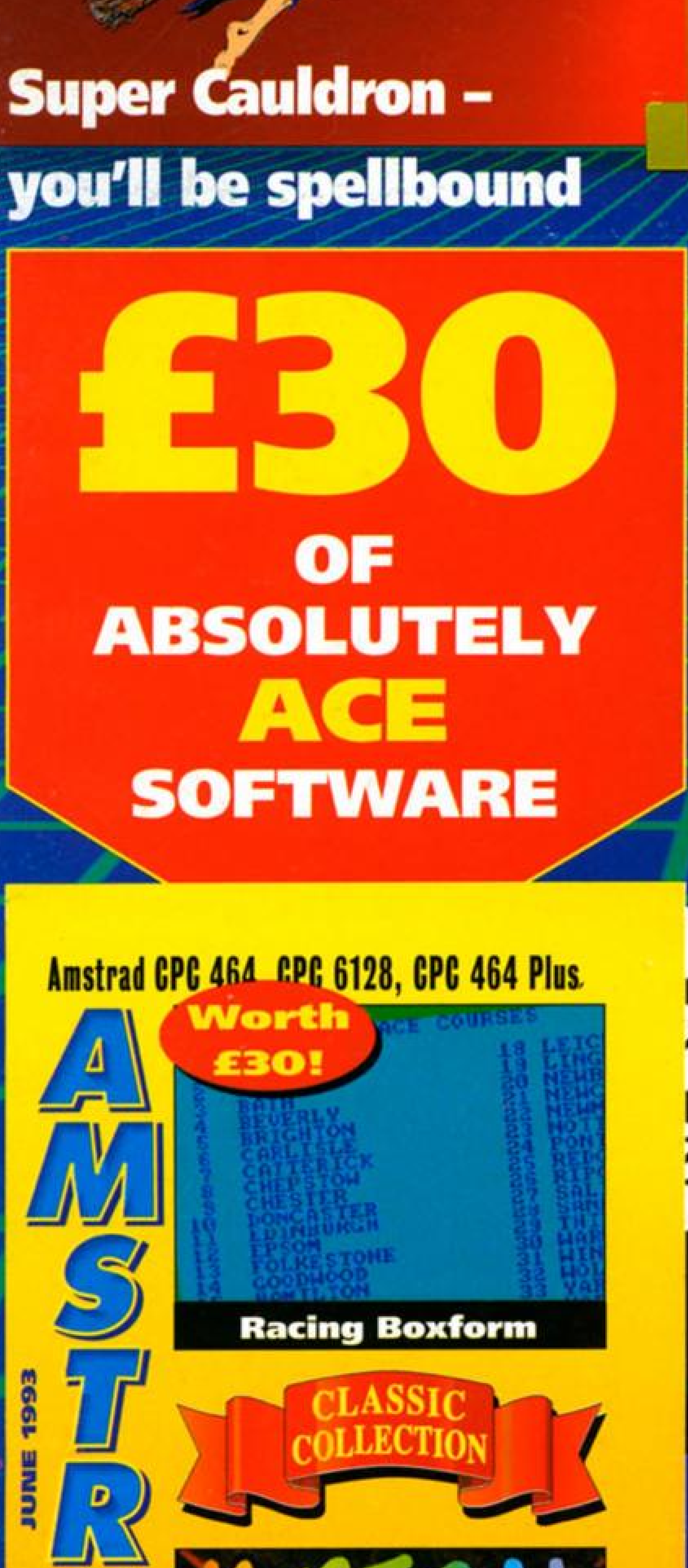


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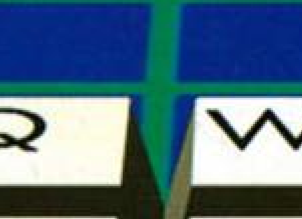


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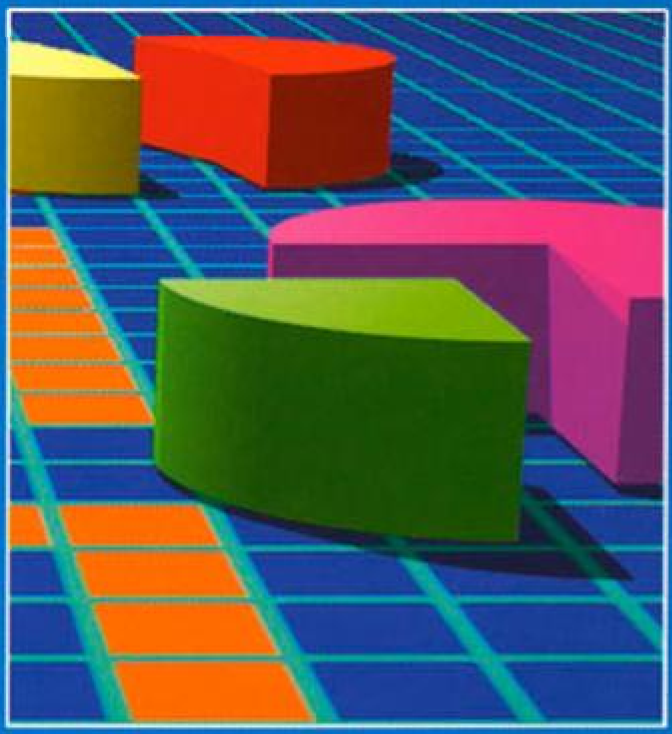
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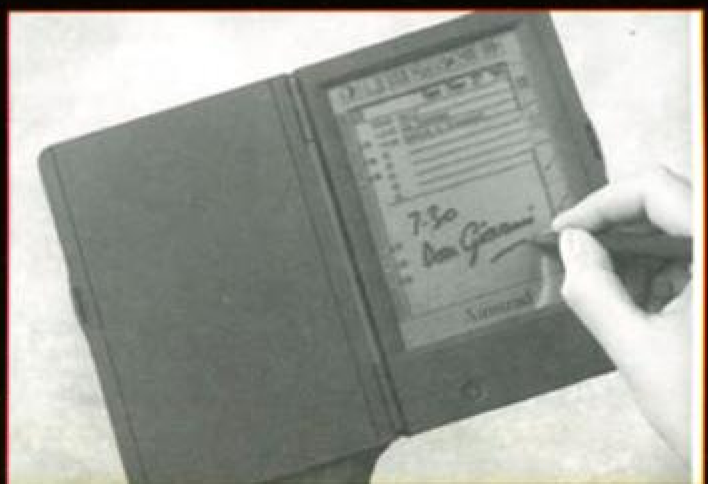
Frivolous



Parallax scrolling on a CPC? Yes – page 43.



Witches sliding on their bottoms – page 42.



A fabulous gadget and no mistake – page 16

up

Regulars

CLASSIC COLLECTION

Here comes another one, by crikey! Another fabulous Classic Collection with two ace commercial packages and the winner of our Design an Adventure Game competition.

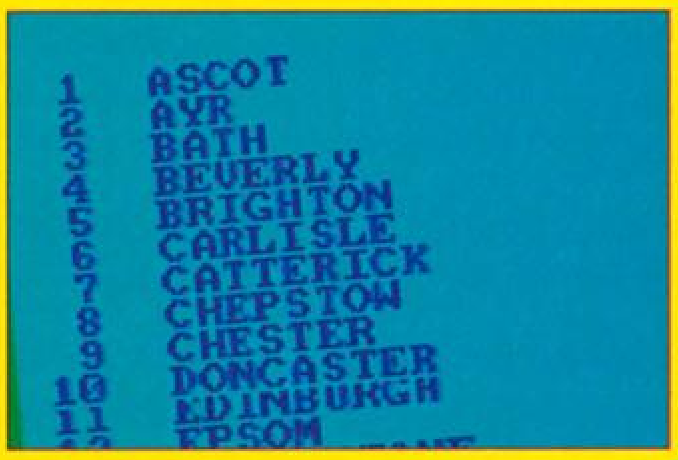
Racing BoxForm

1 What, do you think, is the most important contribution made by the the computer to our society? Could it be the safe and accurate control of all manner of systems, from washing machines to space craft? What about the design of complex objects and structures? Analysis of vast numbers of data that would otherwise have taken thousands of man-hours?

No.

The most important thing the computer has done for us is to make it a little bit easier to guess which horse will win this afternoon's race.

Actually, that's probably not



true, but it's certainly one of the more entertaining things your CPC can do for you.

Whether you're a fan of the sport of kings or you just want to see what all the fuss is about, this little beauty will make the whole thing much more fun than picking winners with an old pin or because you like the name. Mind you, that's not a bad system...

Who's afraid of the Balrog?

2 Not so very long ago, we ran a little competition in the Balrog adventure column to try to find the best and most entertaining adventure game written using the Graphic Adventure Creator (GAC) that we'd recently put on the covertape.

The winner of the competition was to have their masterpiece slapped on an AA covertape

Entries came flooding in by the sack full, and we looked carefully at them all. Some were good. Some were indifferent. Some were absolutely hideous.

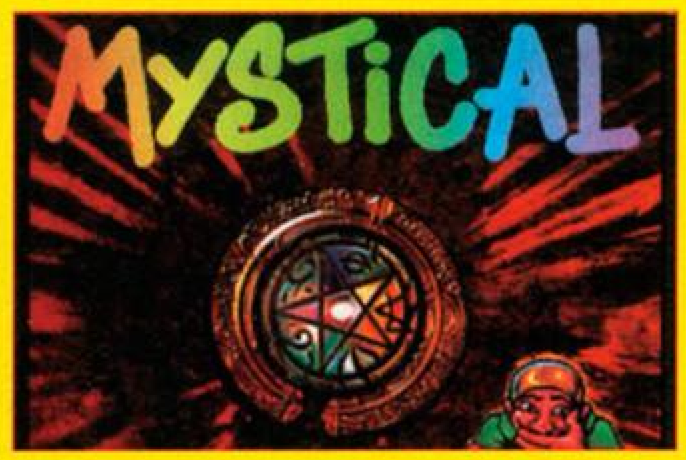
A few were very good, and one, written by the improbably-named Marlon, was very good indeed.

So here, in all it's glory, is Marlon's winning game.

Let's get adventuring...

Mystical

3 Apprentices and trainees can be a bit of a liability. As an apprentice magician, you're a bit useless. So useless, in



fact, that you manage to lose all the Wizard's scrolls and phials and scatter them all over the place. This is considered to be something of a Bad Thing.

What would be best, then, would be if you were to wander through this vertically-scrolling land and collect them all up.

There're instructions aplenty within the game and the consensus is that it's more fun than a particularly amusing thing that decided it was being too serious and tried to lighten up a little.

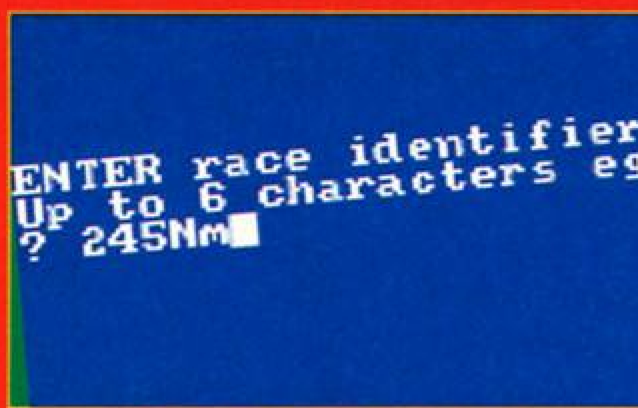
Jolly well check it out right now – you won't be disappointed.

Just turn the page for all the details ➠ ➠ ➠





Racing Boxform

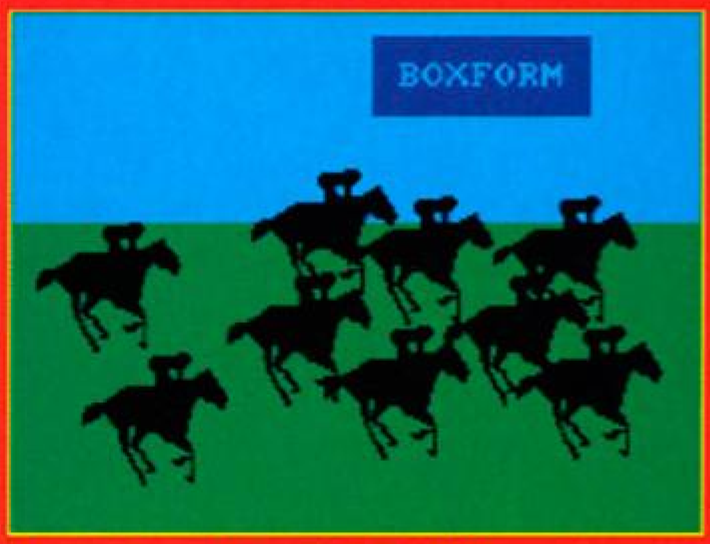


Hours of fun for all the family. Choose a race and get your CPC to guess the winner.

Simon dons his funny hat and ludicrous sideburns for a day at the races...

Following in the series of serious packages, ***AA*** brings you a pleasant diversion from the usual run of the mill serious software. It's time for a truly startling departure – horse racing! Hats out! We know as much about horse racing as we do about the films of Ingmar Bergman so it's over to Boxform for the instructions...

The program allows you to weigh up a race quickly by taking into account the various factors involved and allocating points to the horses concerned, the number of points depending on the importance of the factor. Each category is shown on the screen and all that's required is to enter the race card number of any horse that qualifies. NB Ignore the first digit of three figure card numbers. The card numbers with total points are shown in order of merit on completion.



It's either an Upper Palaeolithic cave painting or the intro to Racing BoxForm.

The computer maintains a record of each race and will show the best bets, in order of merit, from the races analysed. For this purpose you will be asked to enter a name to identify each race. This may be anything you like provided it is no more than six characters long.

Press the RETURN key after each item of data that needs to be entered. Where you're instructed are to press a key, don't press return after that key.

A brief explanation of the factors used in the program follows but, as is explained later, the categories can easily be altered.

Top Rated – As well a the official handicap ratings there are several private handicaps and most newspapers carry their own form ratings. The horse or horses which are top in the particular service you choose are entered here.

One Below – Horses which are rated one point (or lb) below the top rated.

Crse Wnr – Newspapers indicate horses which have previously won on the course but it would also be reasonable to include horses which are known to have given a good performance without actually winning or who have performed well on a similar track.

1st Time – Horses without a previous race in the current season are those whose form figures (shown to the left of the horse) end in - or /. For example 23060-. 11/, 1- etc.

Up To 7EX and 8+ EX – Horses often run in handicaps before their official handicap is changed to allow for a previous win. To compensate for this they are given a penalty of a few pounds extra weight. Because these horses are fit and producing their best form they often defy this penalty and win again.

Starting Price Forecasts given in newspapers are also included – they give an idea of how the 'experts' view the horses' chances.

Changing The Program

After loading press BREAK. The program may now be amended between the following lines:

Flat Racing
- 1300-1490 All races
- 1600-1790 Non handicaps only
- 1800-1990 Handicaps only

National Hunt
- 200-390 All Races
- 500-690 Non handicaps only
- 700-890 Handicaps only

For each of the categories c$ gives the name and t the number of points to be added (a minus quality results in the points being deducted). Line 600 for example causes Top Rated to be displayed and allocates 5 points to every horse entered in this category. N.B. c$ must not be more than 10 characters long.

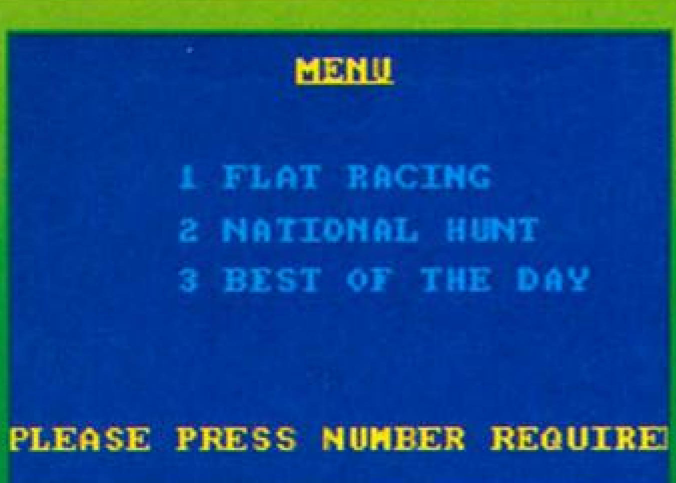
To delete a category simply type its line number and press RETURN. To add a category enter a new line within the limits shown above. For example, if you wished to allocate 4 points to every horse that had won over the same distance as the race under review you could enter:

```
1400 LET c$+"DIST WNR":LET t=4:GOSUB 6000
```

for flat racing or:

```
280 LET c$="DIST WNR":LET t=4:GOSUB 6000
```

for national hunt.



As with all the best programs, there are loads of simple menus to guide you.

NB: Make sure the line number you choose is not already in use for a category you wish to keep.

The Going

Although the going is an important factor in weighing up a race it is not included in the program for two main reasons.
1 – A horse's past record on different going is not widely available in the popular press, a fact that could be disconcerting to many users.
2 – It is difficult to be quantitative about the various possibilities especially when the official going is often not backed up by subsequent time figures.

There are a few points we should like to make, however:

● No horse is inconvenienced by good going, it is just that some can cope with adverse conditions better than others. To state that a horse 'acts on good going' is about as informative as 'runs well on four legs'.
● If a horse is known not to act on a particular going then leave it out of your calculations.
● Known mudlarks are probably at least 7lbs (points in the program) better on soft going. When the going becomes heavy they can be allowed 10lbs or even more over long distances.

Course Winners

You'll notice that in this category the value of 't' is not made equal to a number. This is because the value of a previous course success depends largely on the nature of that course. The points allocated follow the course names in lines 1020 and 1030 for the flat and in lines 110, 120, and 130 for National Hunt racing. These lines may be altered if you want to allocate different amounts.

The Draw

The effect of the draw in flat racing is comprehensively covered by the program but as so many variables are involved it is not feasible to deal with amendments. Should you wish to disregard the draw altogether however you can do so by entering the line:

```
1065 GOTO 1280
```

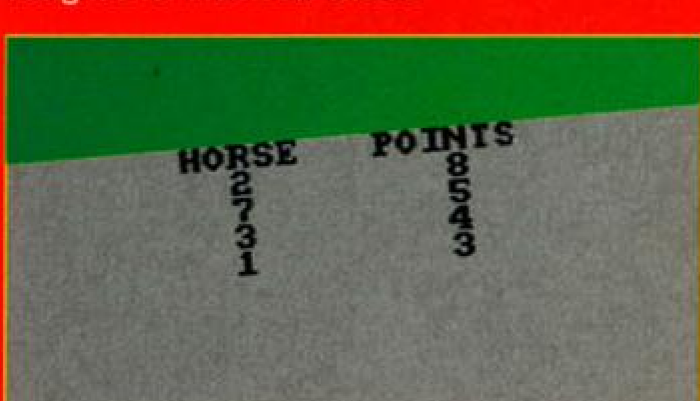
Finally, having amended the program to suit your own requirements save it on the reverse of the disc (or remove write protection) using save "name". The instruction run "name" will run your program when required.

Other Factors

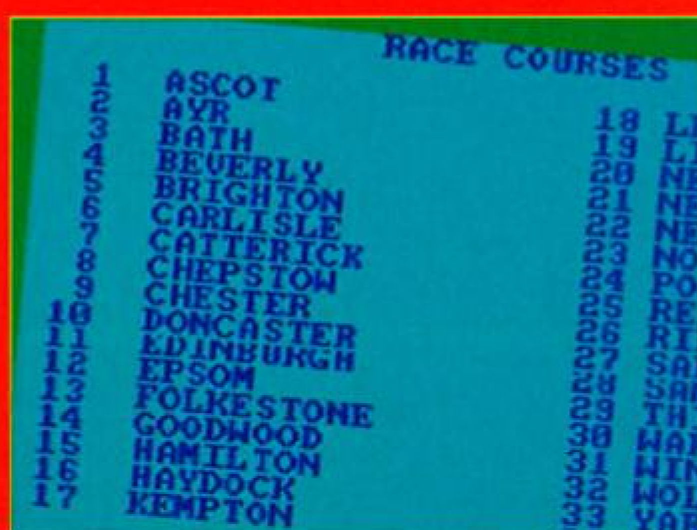
There is complete agreement amongst those engaged professionally in racing that the main points to consider when assessing a horse's chances are its basic ability (form rating) and its suitability to track, distance and going.

There are many more factors ranging from the sensible to the bizarre and when it comes to producing figures to justify their actions, racing enthusiasts vie with the politicians.

Some of the more widely used factors are discussed here but we don't wish to be dogmatic. There are those who will disagree and it's for exactly that reason that the program is designed for individual choice.



The horse with the most points is the one the program thinks is most likely to win.



The program is packed with information on all the major UK racecourses. Naturally.

Jockeys – To blindly add points simply because a horse is ridden by a top class jockey is a waste of time. The chances are the horse was ridden by the same jockey or one of equal merit on previous outings so how can it make any difference? If a top jockey has been specially booked for a particular ride then that's a different matter and should certainly be considered, as should a very good apprentice who, although still claiming a weight allowance, is riding as well as an experienced jockey.

Trainers – Some punters try to find trainers for courses. There is no logical reason why horses from one stable should be better suited to any particular course and it is usually found that a trainer has most winners at his local track. The reasons for this are fairly obvious. His percentage winners (strike rate to use the jargon) is often lower on such tracks. The reason for this is that owners, not unnaturally, like to see their horses run locally. Trainers are therefore encouraged to enter more horses than they would like in races which are not always suitable.

Then there's the 'trainers in form' syndrome. What this usually means is that the trainer is having a good run of luck just as punters, jockeys, card players or anyone else for that matter, have their good and bad times. There is no way of knowing if he is in the middle or at the end of this run and Murphy's Law dictates that he comes to the end as you start backing him. If only there was a way of knowing when his run was about to start! It has been suggested that this phenomenon is due to the trainer bringing his horses to peak fitness which implies that for the rest of the season they are somewhat below

Don't just sit there looking lost – read the instructions.

Just pop the tape into your machine, making sure it's rewound to the start of Side 1, and then press CTRL + ENTER (or type RUN""), then press any key and the tape will start loading.

Within a few moments you get a menu screen. Choose the program you want using the Spacebar, then hit the RETURN key.

● Note that none of the programs need be loaded directly from the main menu. They can all be run from BASIC. The menu lists them, but you must quit back to BASIC to run them. (Use the RUN"(filename)" command.)

● If you have a disk drive either built into your machine or plugged in, you will first have to type |tape to switch the computer to tape loading. You get the | character by pressing SHIFT+@. Then just proceed as normal.

Oh no, it won't work!

We go to great lengths to make sure that our covertapes work properly. However, if you still have difficulty, try this:

● Loading at several different volume levels (if you're using an external tape recorder) ● Cleaning the tape heads. This can be done with any commercially available cleaning kit ● Adjusting the cassette recorder's head alignment. The alignment screw is located just to the left of the tape head, and is usually accessible through a small hole. Turn it a fraction at a time with a jeweller's screwdriver. When the crispest sound is heard, the alignment is spot on. ● Tapping the cassette gently against a table edge – the spools may be sticking or jammed.

If you still can't get the tape to load then send the tape, along with a brief description of the problem and a stamped sae to:

AA93 Covertape Returns,
Ablex Audio Video Ltd,
Harcourt, Halesford 14,
Telford, Shropshire
TF7 4QD

So, you'd like to have it on disc, eh?

The covertape contains its own tape-disc copying program. To transfer the programs to tape, simply follow the instructions on the tape.

● 464 owners with external 3-inch drives will have no problems, but 6128 owners will need a cassette player with a REM socket. Stopping and starting the tape manually is difficult.

● 6128 Plus owners who've had their machines modified to load from tape can transfer the programs to disk, *but must rewind to the start of the tape again before the transfer starts.*

You can also order a disk version of the covertape from our duplicators, Ablex. Snip off the coupon on the corner of this page and send it with a cheque/PO for £2.00 to:

AA93Disk Offer, Ablex Audio Video, Harcourt, Halesford 14, Telford, Shropshire
TF7 4QD

Please don't return tapes to the AA office. Thanks

Disk 93 Token

par. Not too many owners will be pleased with this state of affairs. Individual horses are brought to their peak for a particular race but not the whole stable. There are times when some trainers have an advantage – such as after a spell of inclement weather or a virus outbreak but these are exceptional circumstances.

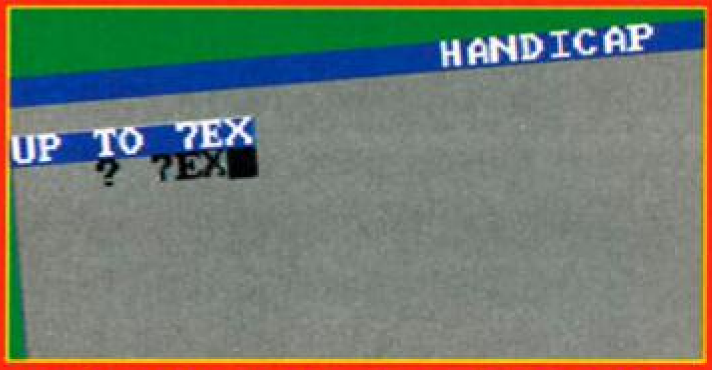
Weight – The weight carried by a horse is of prime importance but only in relation to the weight carried by other horses in the race and to that carried on previous outings. The handicapper and form ratings take care of this (the ratings that appear in newspapers have already been adjusted for weight). Many figures have been produced to show the range of weights most favoured in certain races. In our opinion this is an abuse of the science of statistics and only produces useless information. There are a few points that should be considered when dealing with weights however:

- A horse carrying a high weight in heavy going may not give of its best because it could tire quicker than more leniently treated rivals.
- A horse appears to perform best if the jockey's weight is close to the allocated weight, ie if there's very little extra weight in the saddle.
- When a handicap is formed several horses are often allocated weights below the minimum allowed for the race. When the race is run they have to carry the minimum of course which means they are carrying overweight. If you fancy a horse at the bottom of a handicap it's as well to study the 'long handicap' in a racing paper.

Form Figures – These are the figures that appear before the horses names and are somewhat of a misnomer as they only deal with one small aspect of form. In handicaps where all horses have, in theory, an equal chance these figures can be useful but in non-handicaps they are often a disaster area. It frequently happens that a horse with 000 before its name is competing against one with form figures 321. The first may have run three good races against fairly good horses and although unplaced was not neaten all that far. The second horse may have been 3rd in a field of four, 2nd beaten out of sight and the winner of a poor seller. Barring a near miracle the second horse wouldn't stand a chance yet taken at face value it not only has the better form but appears to be improving. This sort of thing happens all the time and generally speaking, in non-handicaps at least, the so called form figures are not worth considering.

Evils...

We would like to stress that neither Future Publishing nor BoxForm are encouraging gambling. Neither can we take any responsibility for any losses incurred through the use of *Racing BoxForm.*



Just bung the handicap in and let the CPC get on with it for you. Is this fun or what?

Mystical

Let us embark, dear reader, upon a journey. Let us assume that somewhere on the tree of infinity grows a healthy young bud, holding the seeds of disaster, and a new, magical race. With the smooth raven's claws of the western world finally crushing the life blood from man in its iron grip, this glowing, rich, beautiful orb of Earth is to fall silent once more.

In a deep cavern, somewhere beneath the dry, dusty windswept landscape, there was an oppressive silence. The silence inherited all its oppressive qualities from the oppressive darkness. The darkness, as darkness does, was giving nothing away. Not that it had anything to give. Except an oppressive air.

Oh yes, and a worm.

Contrary to what any follower of Darwin or Hawkins will tell you, man did not evolve from fish. Man evolved from worms – or at least he did this time. It used to be firmly believed that if you cut a worm in two, the two parts would be able to exist separately of each other. This is partly true. But whereas the two parts could exist wonderfully once separated, they would, in fact, be utterly dead.

Irrelevant? Not exactly. You see, the only reason the human race can't survive when split in two (despite several design facilities, such as two of everything down the sides), is because its ancestry contains a large amount of small brown stringy things.

However, things didn't always have to be like this. Among the new race of non-divisible humans was a young wizard called Colin. Colin was on a quest to find the cure for this total lack of flexibility as far bodily arrangement was concerned, and live happily ever after, etc.

And so our young adventurer journeyed through many multi-loading levels, and fought with his joystick, smashing bad guys, collecting spells and phials, and generally having fun.

Finally, after a long hard fight, he reached the guardian of the secret, who, not surprisingly, wasn't all that pleased to see him, but he had a rather severe verruca, and so couldn't do much fighting for a while. Instead, the guardian offered Colin a choice – the secret of truly ambiguous body shape, or a years subscription to ***AA***. Okay, so we don't get the account every time... *(No, I don't know what he's on about either. – Ed)*



It's not clear from the text what you have to do. You've lost a load of phials and scrolls...



...and you just have to collect them all and get them back to the wizard. No problem.

Who's Afraid Of The Balrog

It's the adventure game they tried to stop. But as ever, ***AA*** ignores injunctions from MI6, the FBI, and the RSPB because of its dedication to truth, justice, and *(Aren't you overdoing this just a bit? – Ed)* Oh all right... It's the winning entry of the Balrog *GAC* game competition, *Who's Afraid Of The Balrog?* by the rather dubiously named Marlon. *(Well, you didn't expect him to have a normal name, did you? – Ed)*

On request of the programmer, *(Probably called Norman or something – Ed)* we've completely ignored all those pleas for instructions. Then again, as adventure games go, it's pretty self contained anyway, *(Or Cecil. Cecil's a nice name – Ed)* and probably won't be all that difficult to control.

If it is, however, there was a fun little box last ish that gives a bit of advice if you're new to all this adventuring lark, so write off for a back issue tomorrow. *(Even if you've already got one, every bit helps – Ed)* And we'll be giving some hints in later issues.

Oh yeah... There's just one more thing... No, sorry, it's gone. ●

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Amscene

Gossip, chat, and CPC-type news aplenty

Aloha!



This is my third issue and I think I'm beginning to get the hang of it. We're gradually changing the look of AA (we think it's for the better, how about you?) and we're beginning to incorporate some of your constructive suggestions for what you want to see in the mag. Thanks for that – it just goes to show that it's well worth telling us what you want.

In line with some of your suggestions, we've got four pages of Techie Forum this month and next month we'll start putting the size of the covertape files on the tape pages so you know how much space they'll take up when you transfer them to disc. (Thanks to Geoff Palier for the idea)

Ah well, enough of my prattle, on with the motley...

SD Microsystems

Are we stupid, or what? Last month, we printed a little story about how SD Microsystems had mysteriously disappeared. The only problem is, they hadn't – we just got monstrously confused. SD are still about, supplying their business software and other useful stuff like *Page Publisher* (DTP) *Picasso* (art) and loads more, They can be contacted at:

PO Box 24, Holbeach, Lincs.
☎ 0760 720381.

Our most sincere apologies to SD, and we can assure the rest of the world that Simon is being beaten with knotted rope as you read this.

File Conversion

Not only are SD Microsystems still alive and kicking, they're offering a conversion service from CPC to PC for just £5 per disc. So if you've got some CPC word processor files that you want to share with your PC-owning friends, just save them as ASCII files and sent the disc to SD with yer fiver.

Just The Ticket!

Fancy a free ticket to the All Formats Fair? Dartsma have got a hundred to give away, to the first 100 people to place an order from the time you're reading this. They've also got thousands of £1 vouchers to get you in a little bit cheaper if you don't get the ticket.

Keep Safe

There's a brand new software company, dedicated to the CPC. Watch out for a review of their first product next month (a disc archiver), and maybe some more stuff in the future. In the meantime, we wish them the best of luck.

What?!?

Bull Electrical are now selling GX4000 consoles for the absolutely ludicrous price of nine pounds. You can reach Bull on (0273) 203500. This means, though, that the cartridges now cost over two and a half times as much as the console they work with!

Universal Surplus are also selling gear at a knocked down price, with the NC-100 notepad going for a song at £99. They can be reached on (0630) 655801, or (0630) 655797.

They seek it here...

Siren Software, saviours of the planet and providers of the 3.5" DDI-1 drive, have now announced that they've got some 3" DDI-1s complete with interface (so they work as a first drive) and Master Disc for only £160. The down side, however, is that you won't get your free multiface as you would have with the 3.5" version. It's still a worthwhile buy though, so give Siren a ring on 061 724 7572.

They Seek It There...

Rickitt Educational Media has a big selection of educational software AND, if you nominate a school when you buy from them, they'll send a software voucher to the school for 10% of your order value. We'll tell you more next month but in the meantime contact Tsui (pronounced Choi) Miller on **0460 57152**

Seeking Software Everywhere!

Jonathan Smith, and anyone else who wants to find disk software for their CPC, why not write to Software On Demand for a full catalogue of a huge range of disc-based software? They're at Software On Demand Ltd, Customer Service, Unit One, Rosevale Business Park, Newcastle-under-Lyme, Staffs, ST5 7QT. Not only can they sell you software by mail order, but they can point you to your nearest computer stockist supporting the EDOS system.

I'm A Fishmonger!

Or a computer programmer, of course. We've had a whole wodge of entries for last month's compo, and there're some pretty good ideas flowing. But this isn't enough! We want more! Don't be afraid to send yours in – the strangest ideas always work the best as a computer game. Just because it hasn't been done before doesn't mean we can't do it in AA first!

No AA? No problem.

Wherever you live, you needn't be without the world's most lovely CPC magazine. Just fill in the coupon below...

MAG*SAVE

Dear Newsagent, could you please order me a copy of *Amstrad Action*, starting with the June issue, out on May 27th. *Amstrad Action* is published by Future Publishing, and you can order it from your wholesaler. Thanks.

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Creative Counting

There's no need to shy away from spreadsheets and databases – they're a lot more useful than you think.

So AA start giving away some excellent serious software on the front of the magazine and plan to put some business software on in the future to help out if you're planning to get started in business. But what if you don't happen to be running a business? What use is all this stuff to you? Even if you are starting a venture, can you really be bothered to use a spreadsheet? Will a database have any advantage over a pile of paper?

Take a look through the ad pages of AA. Every time you come across a small, up-and-coming software house, think about what machine is keeping their affairs organized. The odds are it's a CPC. Now, we're not saying a CPC can replace a PC, but if you happen to be running a business on your humble old 8-bit, you'll have found it wasn't as difficult as you at first thought.

We're not asking you to run out and buy yourself a complete accounting package – we're not asking you to put your entire life onto a floppy disk. We're just asking you to take a look at the next four pages, and consider just what uses an organizational package could have in your life.

You see – serious software doesn't have to be stuffy. We gave you Tasword, the word processor, and though a word processor is traditionally a serious package (who just wants to type on their CPC? Why not just play games?), you took to it like a fish to water (after we ironed out the bug).

When you read the word processor run-down a few issues back, you hadn't heard the last of serious software. Over the next few pages, we'll be taking you through some of the main applications of your computer in business, and some of the uses you probably never considered putting your CPC to. So get yourselves comfortable for a fun round-up of serious software...

Spreadsheets

Spreadsheets, eh? Aren't they those terribly complicated number things that accountants use? What do I want one of them for?

Ho hum – how to explain a spreadsheet. We can visualize a spreadsheet as just a piece of grid paper, with rows and columns. In each of those cells you can put a number or a word or, more usefully, a few mathematical instructions. so if you've got a whole load of calculations to make, a spreadsheet might be just the thing you need.

For instance, take a look at figure one. The blue boxes here just contain values (called, for arguments sake, x), and the red boxes contain results of the equation x^2 (the value times itself). Take a good look, and you can see the basics of how a spreadsheet works. But what are the green boxes? Well, they're the totals of each column. Simple, huh? We could even add a purple box that calculates the totals of the totals (if you see what I mean).

But why not just do all this with a bit of paper and a calculator? Well, let's say for instance we want to change one of the values in the blue column. With a bit of paper, you'd then have to redraw the entire sheet. With a computerized spreadsheet, the changes are instantaneous (or as near as damn it). So, with figure two, you can see the change.

Now... The use we've made of a spreadsheet here isn't exactly all that rivetting, but so long as you get the idea of the way the things work, then that's okay. You see, you could do just about anything with a spreadsheet – here are a few ideas to get you started:

Doing your homework

A-Level statistics, eh? What fun. So why not do all those irritating quadratic, simultaneous linear, curve, and T-test equations on a spreadsheet? You could use the package to create whole look-up tables of various values and results at the touch of a few buttons. These are not the only uses – you could test correlation, conformity, degrees of freedom, margins of error, you name it, a spreadsheet can do it.

Home accounts

Everyone who's ever had to run a home will know just how easy it is to loose track of things. In-comings, out-goings, and not-quite-sure-ings running up the walls. All that can easily be stored on a spreadsheet, making things so much easier. If your pay increases, or your mortgage goes up, you can enter the new figure and have the sheet adjust itself accordingly.

Making a decision

Just think. After months of painful deliberation, you finally, much to the dismay of your wallet, decide to buy a car. But which car? There is a much simpler way to decide than walking round kicking tyres. Why not set up a table of various cars, calculating their fuel consumption over distance, etc? It would make life much easier, and allow you to make a more informed decision.

Making lists

It might also be wise to remember that a spreadsheet, at the end of the day, is just a grid of boxes – a souped-up table-maker. This issue's Balrog, for instance, has a list of every adventure to appear in AA since the dawn of civilization. This list was produced on a spreadsheet, which automatically laid all the figures out neatly, instead of messing around with a word processor and a few hundred tab spaces.

Share prices

You don't need to be a high powered millionaire to tinker with the stock market, just as you don't need to be a professor of mathematics to operate a spreadsheet package. Norman Lamont actually uses a CPC464 to keep track of this country – this entire recession can be blamed on a slightly grubby pinch roller, you know.

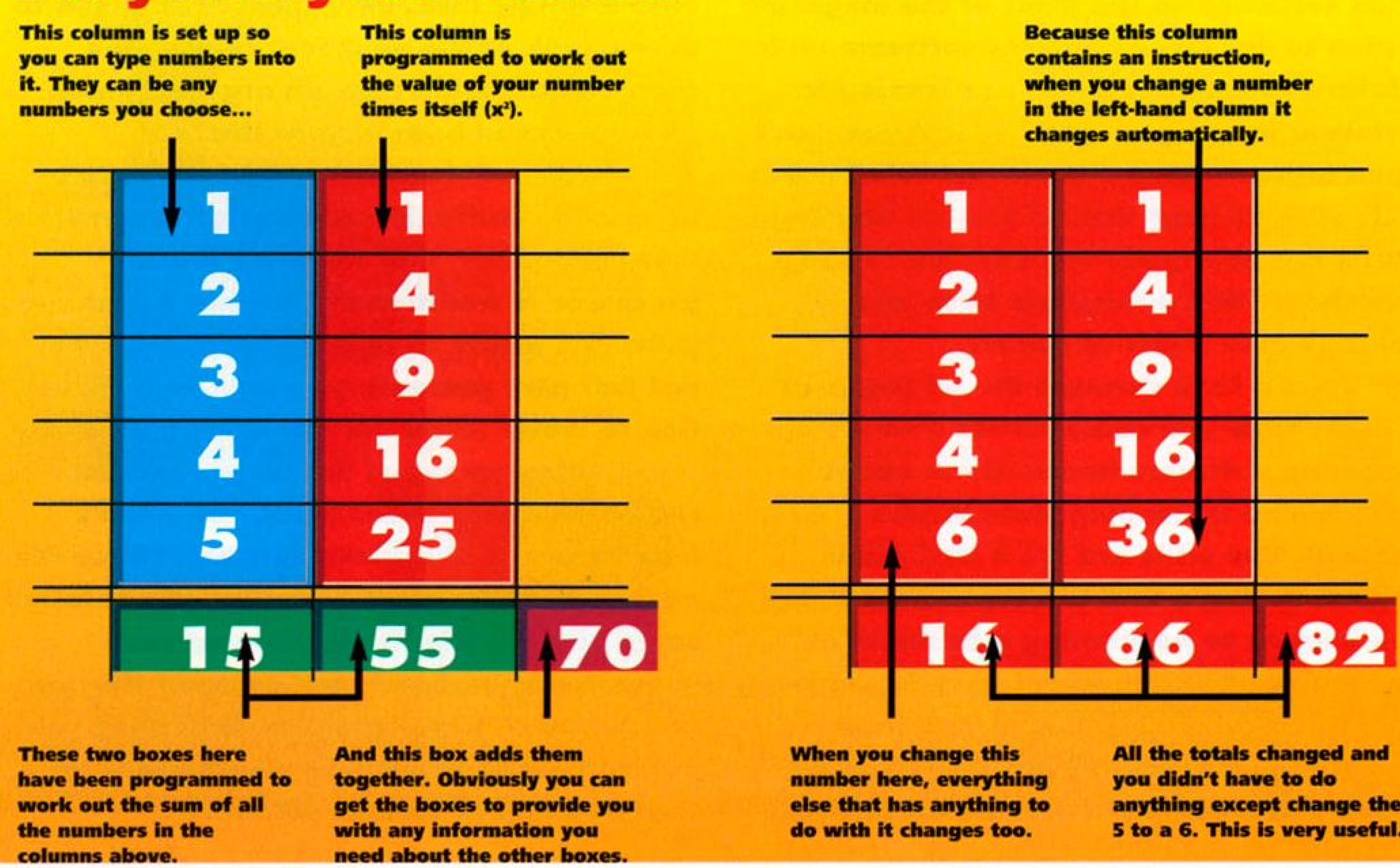
Sports tables

To play baseball in this day and age, you good hand to eye co-ordination, a fast sprint, and strong forearms. To follow baseball nowadays, you need a degree. The statistics don't just state who's where though. They also display individual player performance, games behind, toenail length, etc. So why not keep track of the league on a spreadsheet? *(I do. – Ed)*

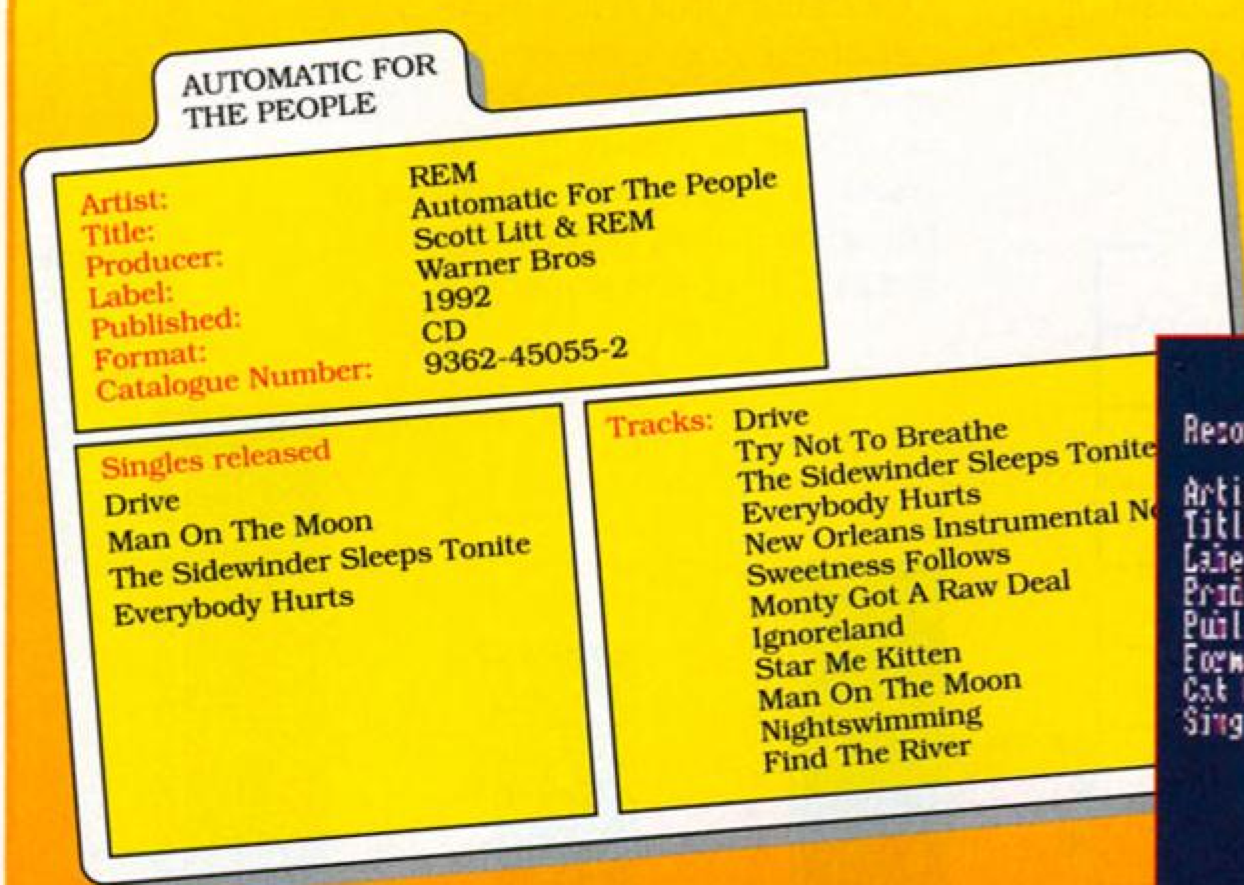
Ventures

For a small business, accounting can be a hassle, and an expensive hassle at that. So why hire an accountant to do the job that a spreadsheet can do for less money, and in a fraction of the time? Just think how much easier running a business would be if you brought a spreadsheet into the equation.

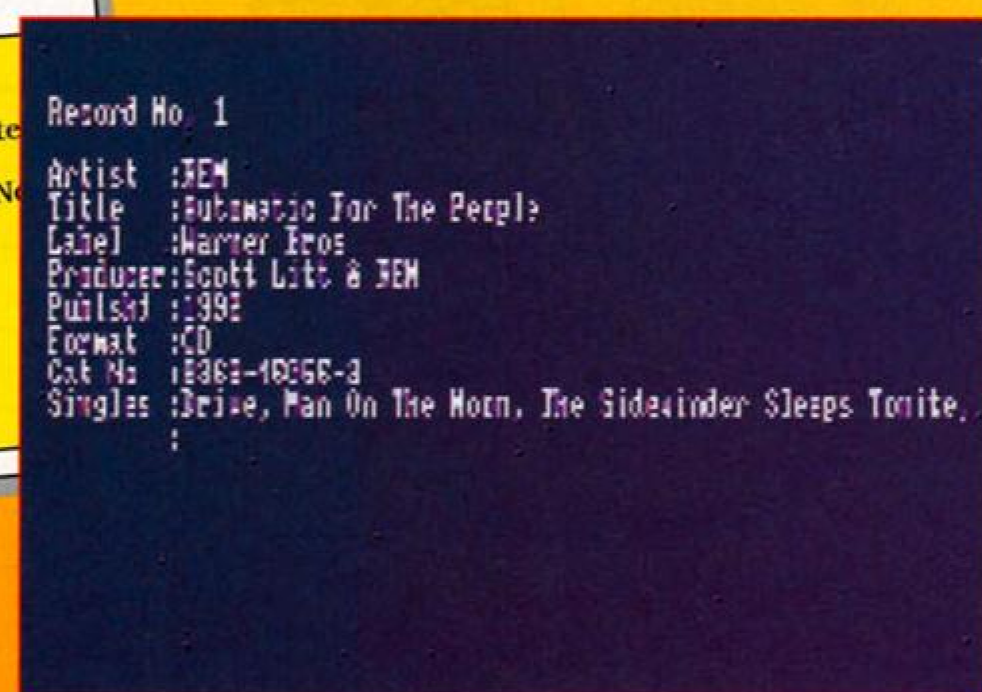
Did you say bed sheets?



What do you want? We want information.



On the left is the sort of thing you might produce if you keep a card index of your record collection. The black type is the stuff that's unique to this particular record. The red describes the information. It should be easy to computerize...



...and sure enough it is. The field names are taken straight from the original card index. If you want to find a particular song, simply ask the database to search the Tracks field for the title.

Databases

All right, then, but aren't databases huge complex stores of information used by police forces and mail order companies? What do I want one of them for?

So a spreadsheet on computer has serious advantages over a paper version. But what about names and addresses? What about that information that can't be neatly arranged into tables? What about text? Well simple really – use a database.

A database is exactly what it says it is – a data storage base. You can store information. So what makes them so powerful?

When we write down an address on a scrap of paper, we classify it mentally into three forms of information, because an address is really just three points of reference. Let's call these points, for arguments sake, fields (that's what databases call them). First off then, we have the name field, for example, Arthur Mo. Secondly, we have an address fields, like 30 Monmouth Street, Bath, BA1 2BW. Finally then, we have a telephone number, like (0225) 442244.

Okay, so you've written all that down, and your friend Arthur goes and moves house, to 17 Wibble Street, Bath. So you have to scrub out the old entry in your little address book, and enter the new one in a convenient space. Even if you've got a loose leaf system like a Filofax® you'll still have some amount of fiddling about to do. If only you had a storage system that allowed you to enter information, view it, and above all, edit it. What you need is a database.

Get it sorted

So here we have, in it's simplest form, a type of word processor. But this word processor has a feature for only editing certain pieces of information, labelling what is stored, and processing it. You see, whereas a normal WP package would just allow you to type in information and print it, a DB package would sort the information (alphabetically, numerically, etc), print only certain parts (or fields) of data on request (like just names and phone numbers for a phone list, just names and addresses for a mailing list, etc), and search for information in specific fields (just names, etc). Wow, or what?

But you don't just have to use a database for storing names and addresses – Oh no. There are many other types of information you can store with this kind of device. Here we go:

AA information

First and foremost, of course, there's the obvious and probably most important use of a database – storing issue details of the worlds most excellent, informative *(And only. – Ed)* CPC mag. You could reference cheats, reviews, adventures, changes of editor (do we have a database powerful enough, though?).

Books and Records

Don't you just hate sorting through 300 albums just to find the one you want? It could be on vinyl, tape, or CD, and you've got no idea which, even if you do manAge to keep them in some sort of order. So why not keep a record of all your collections on computer? It's also nice to be able to print out a list of seven or eight hundred albums and impress people with.

Music

Do you play guitar? Or how about piano? So you're sitting around, fiddling with about a bit, and you come up with a whole new exciting little riff. If you can get your database to display five lines of information (or six if you work in tablature) and allow you to edit it at will, shouldn't you store all your little odds and ends of music on a database? This way, you can retrieve any reference at a moments notice, and even persuade it to print them out for you.

Software

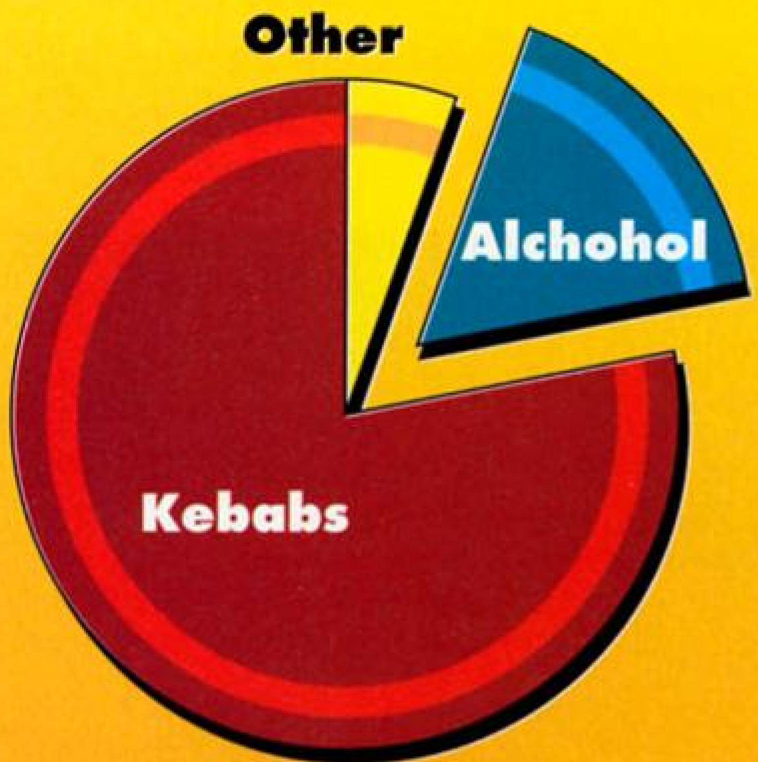
If you follow the reader action guides that seem to be liberally scattered around the hallowed pages of AA, you'll probably be fairly interested in just how to set up a working PD library. So you've got 200 little programs in your collection, stored on who knows how many discs, and you need to keep track of them all. So why not store the name of each program, along with the disc number it's stored on (you do number your discs, don't you?), so that you can find them instantly, and fill the orders of all those darling users in no time at all.

Student notes

Go and visit a friend at college sometime. Check out the book shelves full of various healthily massive tomes. And as they search desperately through 23 of them looking for a one line quote that, if they remember correctly, might be relevant to a particular essay, laugh at them and think just how easy their life would be if they stored details about each book, along with important quotes and ideas, on a CPC.

If you've got it, display it.

It's all very well having a disc full of data, but a grid full of numbers doesn't exactly provide you with a clear view of what the figures actually mean. This is where a graphical representation of your figures may come in handy.

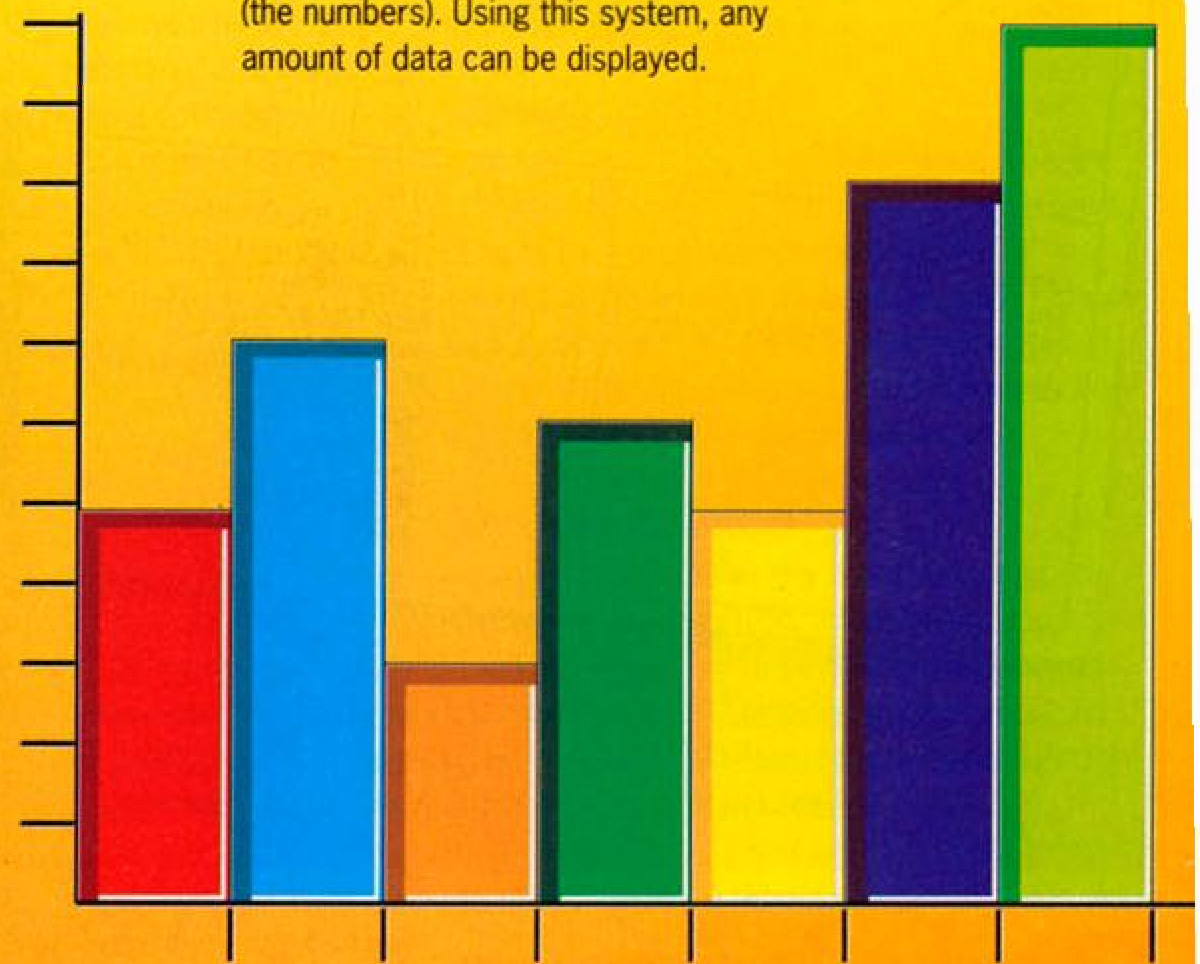


Pie Charts

Pie charts have one major advantage over bar charts – as well as displaying values in relation to each other, they also display values as a proportion of a whole. They work quite simply, by showing each value of a slice of an overall pie.

Bar Charts

A bar chart is a form of data display that probably everybody is familiar with. *('With which everyone is familiar', surely. – Ed)* One axis contains the descriptors (names, groups, etc), and the other contains a scale (the numbers). Using this system, any amount of data can be displayed.



Just The Business

Of course, you'll need a few more packages to run a business, or you may just want a more specialized package for home use. Well, there's a company that concentrates on the more serious side of the CPC – SD Microsystems.

SD have one main philosophy in life, and that's that a CPC can do anything a PC can. And although this isn't strictly true if you want to get all pedantic about it, they have proved that for most practical serious needs, a CPC can certainly do the job quite adequately. So what have they got on offer?

General Ledger 6128

Probably the most prominent thing in the range is *General Ledger 6128*, which is a standard book-keeping package, aimed at small businesses and the self employed. This, then, is probably the first package you should buy if you don't already have a computerized accounting system.

Graph-Master

From a slightly different angle, that of presentation, there's *Graph-Master*, which produces a variety of graphics displaying any set of figures you care to give it. It displays pie charts, histograms, line charts, etc (see above for an idea of what that's all about).

Home Accounts

As mentioned earlier, business packages could be used to run a home on. But why use a full business package, when you could get hold of a tailor made home accounts package?

Kwikfile

Remember the stuff about databases? Well *Kwikfile* is, quite simply a database! It's set out in a sort of file-card way, and allows sub-files, fast searches, etc. It should be suitable for most of your data processing needs.

Mailing List

If, on the other hand, you would be using a database to store mailing lists, SD come up with the goods in a more direct way. This is a package specially designed for printing mailing lists and address labels, which should be a bit simpler than fiddling with a full database.

Payroll Program

We're really getting into the realms of business here! This is a payroll package that works out all that tax, holiday pay and NIC stiff. I'm not going to go into the complexities of calculating payrolls here because I don't understand it. If you want further details, you'd best contact SD.

Small Traders Pack

If you're just starting on a small scale, this is the bit for you. The *Small Traders Pack* contains sales and purchase ledgers, a stock database, a mailing list address labeller, and an invoicer and statement printer!

Stock Accounting 6128

Another meaty program from SD, this. It contains stock control, invoicing and sales ledger, and is all very complex. Suffice to say that it pretty much covers everything you'll ever need as far as accounting for your stock is concerned, but you'll have to get back to SD for the finer details.

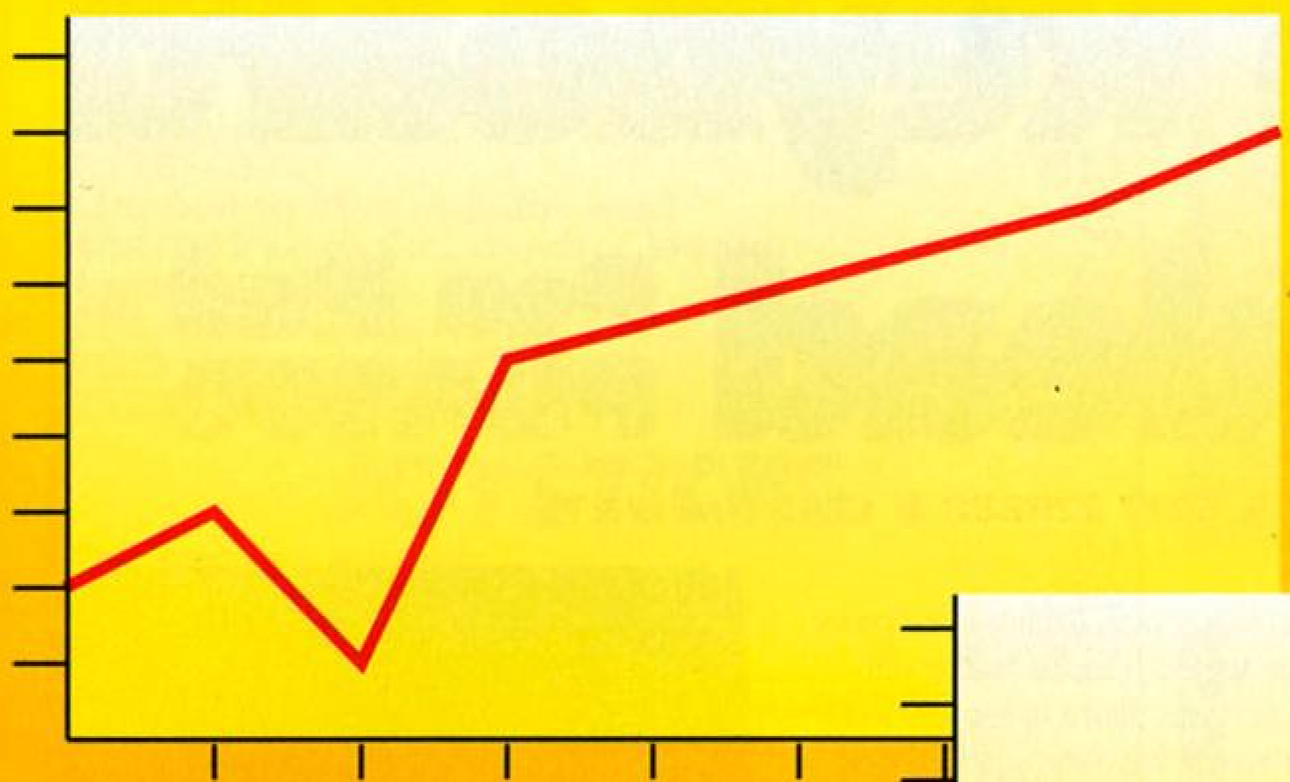
But Can It?

Reading the last part, there's probably one huge question hanging on the lips of several thousand readers (makes you feel kinda small, doesn't it?). Can a CPC beat a PC? Well, no. A PC is a large and powerful machine with a fast processor, and powerful mathematics capabilities, whereas a CPC is an 8-bit home computer. So I think we've quite nicely established the fact that a CPC can not perform to the standard of a PC.

However, it can achieve the same results with mathematics. Sure, it takes about ten times as long, but you can achieve the same effects. When it comes down to it, the CPC does have a comprehensive set of maths functions, and should be quite capable of serving the kind of purpose you would buy a PC for, but please remember that a CPC is no-where near as powerful as the PC range.

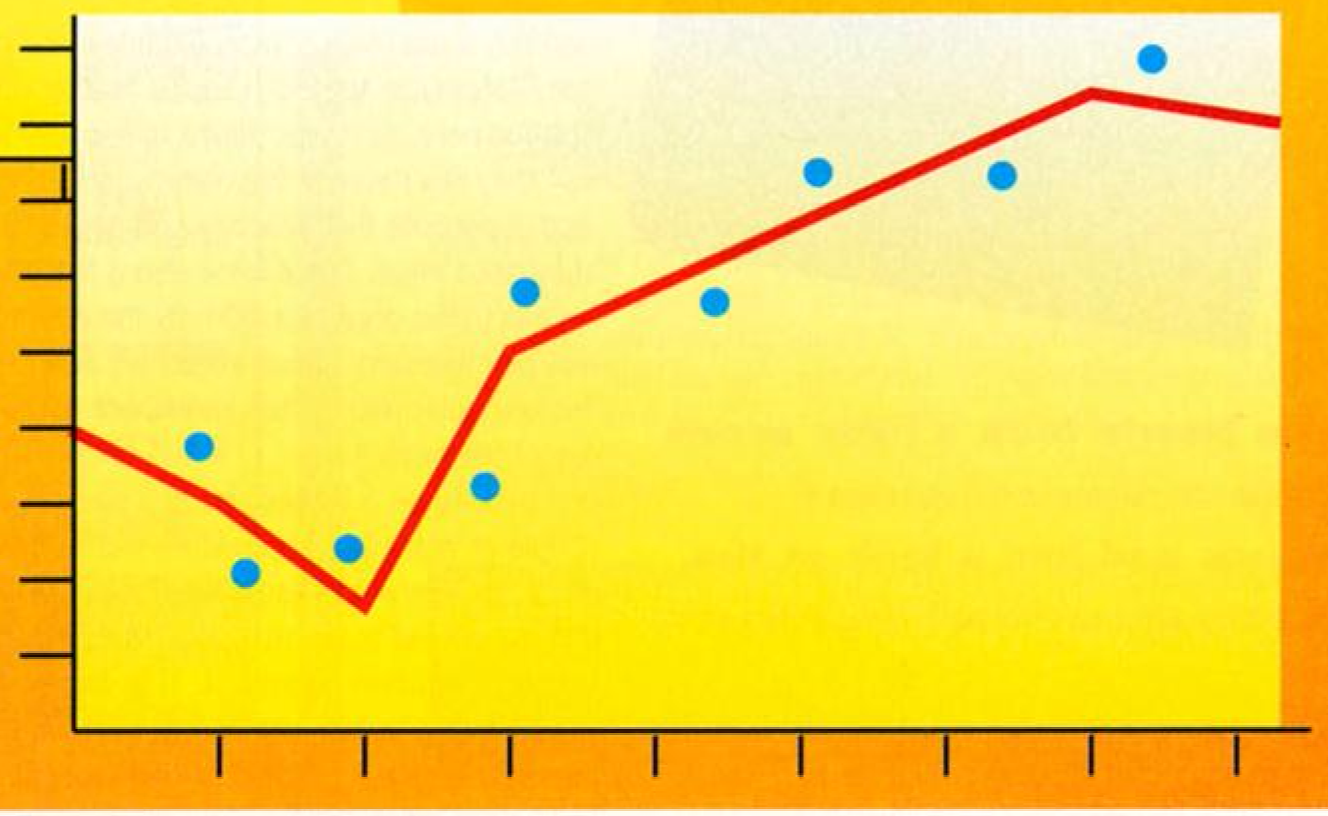
Contact

SD Microsystems
PO Box 24, Holbeach, Lincs.
Tel and fax: 0760 720381



Line Graphs
Line graphs come into common use as a replacement for the bar chart when both axes are to show scales, instead of one containing something else. Look – it's really simple, honest! Take a swizz at the diagram. Using this, you can see correlations, changes over time, and just about anything.

Scatter Chart
When you're in a physics lab *(And when were you last in a physics lab? – Ed)*, and you're conducting a little experiment, you may notice that your results will never, repeat, never fall onto your graph in a perfectly straight line. If they do, you're doing something wrong. So instead of having a line graph that bends so much it's unplottable, we use a scatter graph. As you can see, instead of a single line we have a mess of dots that, if we want, we can draw a line through.



An Example...
Campursoft

Campursoft, a company who specialize in CPC hardware and software, run their affairs totally on a CPC. We thought we'd find out just what their machine gets up to in the average day. So what software do they use?

ROMs
Software on ROM has several serious advantages over disc based packages. First, it is very rare that a ROM will ever get corrupted. Secondly, ROMs load in a matter of seconds without having to swap discs, run files, etc. So what ROMs do Campursoft use?

Masterfile 3
This database is certainly advanced enough to deal with any job it could come up against in everyday office use.

Protext
Arnor's word processor comes on tape, disc, or ROM. The ROM version does have an advantage over the other formats though, allowing higher file sizes (no foreground memory is taken up by the software itself), and can therefore handle more text at one time.

Prospell
An addition to *Protext*, giving it a full spelling checker. If you have *Protext* on ROM, it only makes sense to have any accompanying software on ROM as well.

Promerge
Well, what did you expect a mail merging package accompanying the increasingly powerful *Protext* to be called?

Other
As well as the straightforward packages, Campursoft do use a lot of other CPC software to keep things rolling. Amongst these are *Nirvana* (a disc management suite, that saves their lives regularly), *Maxidos* and *Utopia* (for other computing problems), and finally, *Maxam* (an assembler), for writing software.

Storage
Just as this feature was being finished off, Campursoft contacted us with the other very important piece of equipment they use regularly – a high density drive. Of course, when they start mass production of their hard drives, they'll be even more use aiding businesses, but for now, it's the 3.5" drive that's providing a storage system for Peter Campbell and Jess Harpur. ●

Come On...

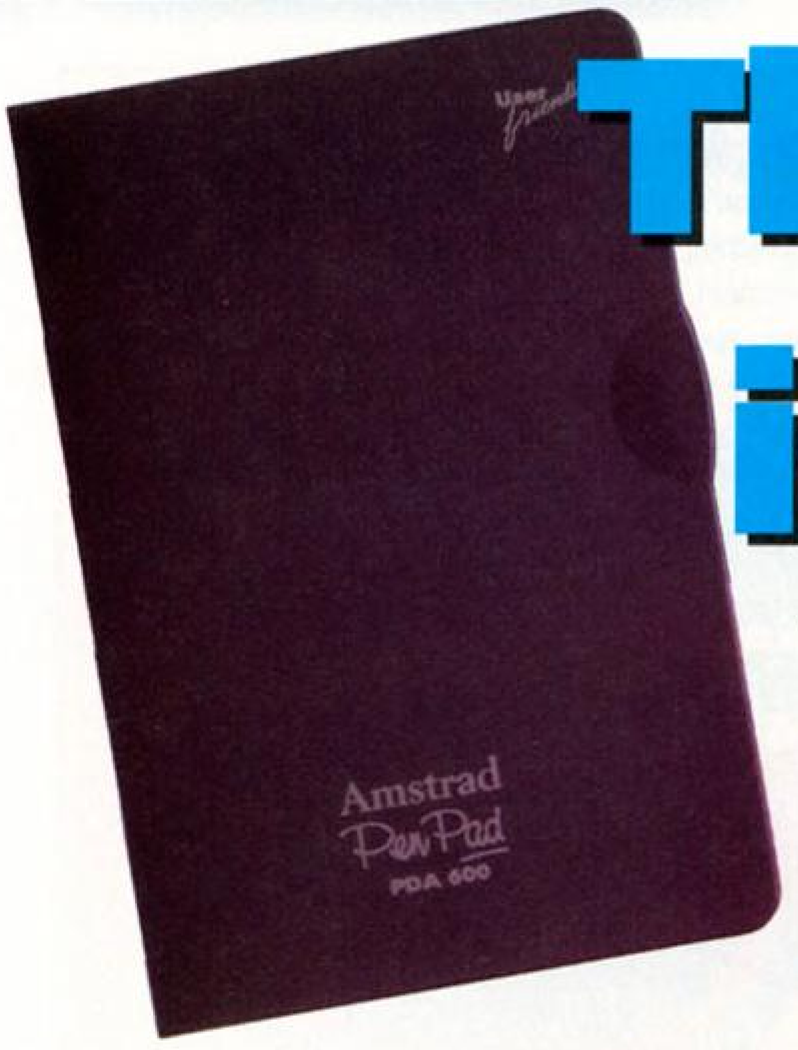
It's all very well, sitting in your armchair, or lying on your bed, but when are you going to get involved? Now that you've had a slight insight into serious software, why not put some of it to good use! Here we go then...

If you've started using a serious package for an original or blatantly strange purpose, write in and let us know. If we get enough response, we'll consider running a follow up in a few months. If we get any really interesting replies, we might consider bunging a small cash prize in the direction of the sender of the most original use for business software.

Availability

We could use this last part to give you a list of the various packages, and where to get them but unfortunately, tracking down who sells what nowadays would be impossible. Most of the original software companies have either dropped the products, sold the licences, or changed names. So unless you manage to find packages hovering amongst the adverts here in *AA*, you'll just have to keep scouting. There are still a few places to look though – try The User Group, MJC Supplies, SD Microsystems, etc.

Next month, with a little luck (these things can change at any time), we should have a database on the covertape for you, and we're currently undergoing negotiations for a top spreadsheet system for the month after. All that and your regular games, etc. What would you do without us?



The keyboard is dead

Pen Pad PDA600

Amstrad ■ 0277 228888 ■ £299 (inc VAT)

Tim Norris took a little break from serious computery things and had a look at the future of personal organisers.

You may remember reading in AA92 about a nifty new gadget from Amstrad called the Pen Pad. Since then you may also have seen it on Tomorrow's World. It's also known, for reasons that are never adequately explored, as the PDA600. PDA stands for Personal Digital Assistant but the '600' bit is a mystery. Still, I managed to get hold of one for a few days to have a bit of a play.

A quick survey of people whose phone numbers I could remember revealed that almost everyone uses some sort of portable means of recording addresses, telephone numbers and things to do. A few use traditional address books and buy a diary every year. Slightly more go for the Filofax-type approach (we're dealing with journos here, so it was bound to happen) and say they like having a big diary/address book and appreciate the facility to add pages when they need them. There were also a few who use an electronic organiser. (Oh, by the way, in case you're interested, Simon keeps his addresses on his computer and neither knows nor cares what day of the week it is.)

I used to be a Filofax sort of a person, but a couple of years ago I bought myself a small electronic diary/address book thing. It fits neatly into the pocket of an ordinary jacket and stores all the information I want it to. It is, however, a complete pig to use. I haven't got the world's fattest fingers but I do find poking away at the tiny keys a bit of a chore. This is where the Pen Pad could come to my rescue.



There's handy conversion table. And we're so cheap we've used pics from the brochure.

Stylus counsel

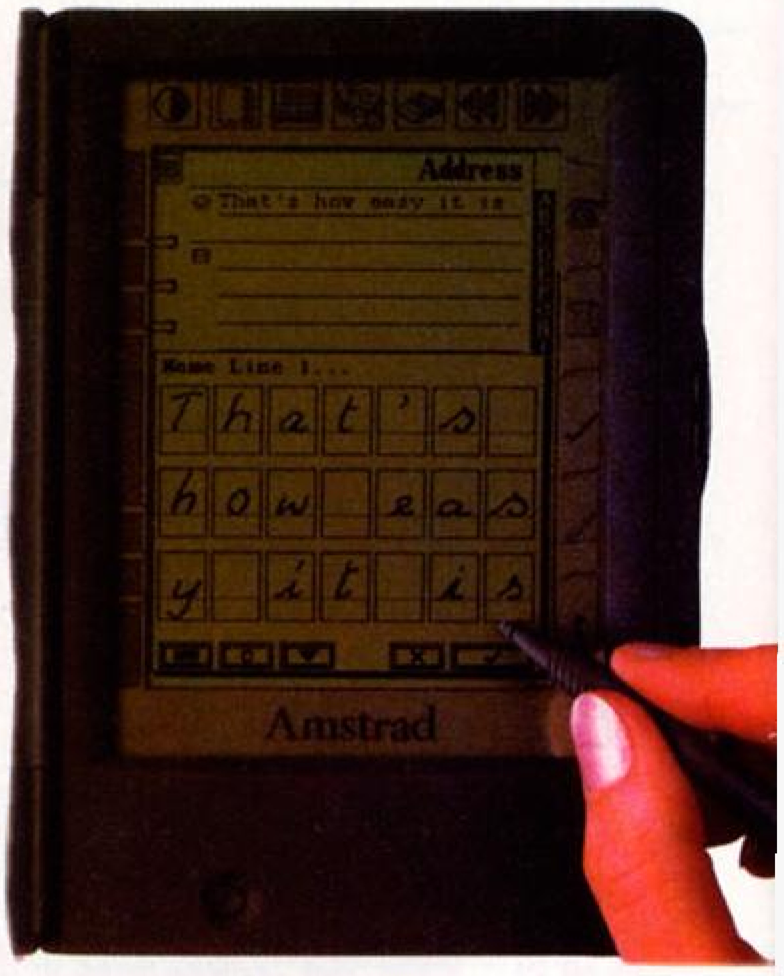
The Pen Pad has dispensed with the need for a keypad altogether – all you need is a plastic stylus (they kindly supply two, but anything that won't scratch the machine will do). That's all very well, but devices that sense the movement of a stylus on a screen have been around for years – what's so special about this one?

It recognizes your handwriting. When you switch it on for the first time it takes you through a sort of tutorial where it gets you to teach it your handwriting. From then on, whenever you want to store information in it, it gives you little boxes to write in and then interprets your scrawl as typed characters. Obviously it's going to have a little trouble from time to time so it also allows you to re-teach it any letters it can't recognize.

But does it work?

It does, indeed... mostly. It took me about half an hour's use to get it to learn my writing and after that there was no stopping us. Names, addresses, phone numbers, 'to do' lists, appointments – I just scrawled them in and the Pen Pad sorted it out.

I tried it out on a few others, though, and it can have trouble with some people. It seems that if your writing isn't very consistent you're going to have problems. Even with four versions of each letter, one person had trouble getting the machine to tell the difference between an 'm' and an 'n'. Overall, though, it was very impressive and much easier to use than a normal electronic organiser.



That's almost how easy it is – the machine would have interpreted all those letters.

It has a Notes facility, too, which just gives you a blank page (or part of a page in the Diary section) where you can just scribble things and the machine makes no attempt to interpret them – it just remembers them. You can draw maps and diagrams and you need never use a piece of paper again.

And, of course, it can communicate with the outside world. Link it up to an RS232 interface and you can transfer your names and addresses onto your CPC. These being the '90s, the flashy software will all be for the PC, but there's no reason why you can't dump simple information (not your pretty diagrams) onto a CPC.

To sum up

It's an extremely clever little device. It's easy to use and managed to recognize most people's handwriting after a bit of coaxing. It's quite heavy and bulky, though and won't fit in the pocket of an ordinary jacket – but then neither will the Psion Series 3 – you'll either have to have a word with your tailor or shove it in your case/handbag. It doesn't have the word processory-type facilities of the Psion but neither does your Filofax.

I love gadgets so I'd buy one tomorrow – although at £299 (inc VAT) I think I'll probably still be saying that in three year's time.

92%

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ABBA Switch £12.95

The ABBA switch, as its name implies, logically switches your drives around so that your A drive becomes the B drive and your B drive becomes the A drive. You can then use your external 3.5" drive as your A drive. Available for 6128/664 only.

3rd Drive Switch £12.95

The 3rd drive switch sits on the disc drive port and allows the use of two external drives, normally B drives. When used in conjunction with the ABBA switch the two external drives become A drives. Available for 6128/664 only.

Side Select Switch £3.00

The side select switch allows the use of side A and side B on your 3.5" discs. The kit comes complete with full fitting instructions and is suitable for any make of disc drive.

6128 ROM £24.95

The 6128 ROM upgrade allows the use of CP/M Plus operating system and features some extra BASIC commands. It will also allow the use of 6128 only software. It comes with full fitting instructions. Some delicate soldering may be required.

Dk Tronics RAM Pack £39.95

The single plug in memory expansion pack features some extra BASIC commands, and bank switching software for use as a data bank. The bank switching is done automatically and is ideal for use with CP/M 2.2 and CP/M Plus with the 6128 ROM fitted. Expands your 64K RAM to 128K RAM, and brings your 464 up to 6128 capacity. Will work straight off. Plus machines require a Plus to Edge (Widget) connector.

Widget £9.95

Plus to Edge connector allows standard 61288 peripherals to be connected to the 464/6128 Plus computers.

3.5" MEGA-DRIVE
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(Including FREE MS800)
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The Mega Drive will format up to 800K per disc when used with MS800 (supplied FREE), RAMDOS, ROMDOS or RODOS. It is a DUAL MODE drive. In MODE 1 the Mega Drive is a complete alternative B drive, and in MODE 2 the Mega Drive will format up to 800K per disc. The Mega Drive is fitted with a side select switch as standard, to allow switching between side A and side B of your 3.5" discs. The Mega Drive is compatible with almost all other computers, so that if your change your computer you can transfer your Mega Drive. You will of course require another connecting lead. The power supply is external and can be purchased separately for £9.95.

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40 X 3.5" Discs & Disc Box

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Printer Lead	£7.95
Joy Stick Splitter	£9.95
464 Extension leads	£12.95
6128 Extension leads	£18.95
464+/6128+ Extension leads	£12.95
Power Supply (Unregulated)	£9.95
Power Supply (Regulated)	£14.95
6128 User Manual	£18.00
CP/M Plus System Disc	£17.95
CP/M 2.2 System Disc	£17.95
6128 Service Manual	£16.95
6128/464 Plus Service Manual	£15.95
464 Service Manual	£12.95
3.5" TEAC Mechanism	£49.95
CPC464 Cassette Mechanism	£14.95
Magnum Light Phaser	£14.95

MP3 TV Tuner £29.95

The MP3 TVTuner fits perfectly under your CTM644 colour monitor and gives a perfect television picture (subject to good receiver conditions). Can be used to play Video Recorders or other computers requiring television display. Can be used on the CTM640 monitor with extra PSU. MP3 Plus available...........£39.95

CTI Radio/Alarm/Clock £14.95

The CTI Radio/Alarm Clock sits perfectly under the Colour Monitor. Being powered from the mains it does not require any connection to your computer. The radio covers FM/MW/LW bands, and the Alarm Clock has a very clear digital display. The CTI matches perfectly with the MP3 TV Tuner and can be purchased together for..............£39.95

DDI-1 Interface £65.00

We have a very limited quantity of DD1-1 interfaces which can be purchased with our 3.5" Mega Drive to connect to your 464 as the 1st Drive.

OUR COMPREHENSIVE RANGE OF PCW DRIVES

We have industry standard 3.5" drives to suit your every PCW need. We have internal and externals, basic types and some that sing and dance for you and we have them for all PCW models. They incorporate top quality TEAC mechanisms. All our drives are designed in house to suit *your* needs and use only top quality parts and materials. They are supplied with full step by step fitting instructions and carry a full, 1 year RTB warranty. Our external drives utilise the 12 volt line for reliability and are housed in sturdy metal cases and finished in a fine ivory texture. All our external drives are made to detach outside the PCW for ease of transportation and to allow them to be used on other PCWs and other computers such as the PC.

INTERNAL ABBA 9 £89.95

Fits into the B drive compartment of the 9512 to provide a 3.5" B drive. Its incorporated ABBA switch allows it to be logically swapped over with the 3" A drive so that the A becomes the B and vice versa. Booting up can be done from whichever drive is in the logical A position.

EXTERNAL ABBA 9 £89.95

This is the external equivalent of the INTERNAL ABBA 9 for those who don't wish to fit an internal drive. All features are the same.

DOUBLE DECKER
DOUBLE DECKER
2 DRIVES IN 1 CASE
only £149.95

For use on the 8256 and 8512 with 2 internal 3" drives fitted. Built in switches allow the selection on internal 3" or external 3.5" A drive and internal 3" or external 3.5" B drive. Booting up can be done from either 3" or 3.5" disc. You can choose to store your data on 3" or 3.5" discs whether A drive or B drive. The addition of this top of the range model to your PCW will give you all the versatity and choices you ever wanted and then some!

256K memory upgrade	£16.95
Extra leads for external drives	£POA

Due to cancelled order we can offer a limited number of 3.5" Panasonic External MFD1E Economy Disc Drives

£49.95
Offer subject to stock availability

INTERNAL 9 £79.95

Fits into the 9512's A drive compartment to replace a faulty 3" A drive. It can also be fitted into the B drive compartment and used as a B drive. An internal switch decides whether it operates as an A or B drive. Should the 3" A drive become faulty then flicking the switch will immediately set the INTERNAL 9 as a replacement A drive.

INTERNAL 8 £79.95

This model is the equivalent of the INTERNAL 9

EXTERNAL MFD2 £79.95

For use with the 8256, 8512 and 9512 with two disc drives fitted. When connected, it becomes an alternative B drive to the internal 3" and has a switch fitted to allow the selection of external 3.5" or internal 3" B drive. We chose the reliable manual switch rather than the auto switch which can cause inadvertent formatting of important discs. Is detachable without the need to open the PCW which helps when moving the PCW. This feature allows the MFD2 to be used on other computers, e.g. PCs. We supply extension lead adapters for this purpose.

EXTERNAL MFD1 £79.95

This drive is identical to the MFD2 but without the facility to select external 3.5" or internal 3" B drives. The MFD1 is therefore suitable for single drive versions of the PCW 8256 PCW8512 (with internal B drive disconnected) and PCW9512.

GVL Microform
191 Watling Street Road, Fulwood, PRESTON PR2 4AE

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Technical Forum

The curious and bewildered gathered round, and they said, 'Help us, we need technical advice, where can we turn?' And Richard Fairhurst smiled benevolently on them and said, 'Don't worry, I shall help you.'

Let's not mess about here, let's get straight into the letters.

Second place

I have two CPCs, a 664 and a 464. *(Same here. – Richard)* For the 464 I have a DDI-1 disk drive. Can I use this as a second drive for the 664? Is there any difference between a first drive and a second other than the interface provided with the 464?

Also, I have a Voyager 7 modem, from Modem House, which doesn't seem to be working – after autodialling I only get a long stream of gibberish. I think it is the modem, because I can echo text through it when it is on 'Test'. Could you please tell me where I can get it repaired and approximately how much it would cost?

Mark Stewart
Belper

The drives, you'll be pleased to know, are absolutely identical save for the interface with the first drive. You should be able to obtain a cable from most CPC mail order suppliers, especially those who specialise in disk drives.

It's unlikely that your modem is broken. More probably, you haven't got it set up correctly. You will need to set your terminal program to the highest baud rate (speed, e.g. 1200 baud) that the modem and bulletin board you're calling have in common. You also need to set it to 8 bits, no parity, one stop bit (8N1) for most bulletin boards. Consult the Voyager's manual to find out the highest speed it can run at.

Very dead editor

I own a 6128, and recently purchased a word processing program, entitled *VDE.COM*, from a PD library in Cumbria. Unfortunately, the program arrived with no instructions, nor did the PD library have any available when I contacted them, and the program does not work.

This set me back £3.75 and unless I can get it working, that's £3.75 wasted, which I cannot afford to do. Certain files located on the disk seem to be either instructions, installation or documentation, and it is my belief that some setting up is required. I have attempted to print the files, but I must admit I do not know how, having not spent much time with my Amstrad. Can you help please? I am led to believe that this program is popular amongst Amstrad owners, and hopefully it will be just the job for the novel I am attempting to write.

Andrew Hall
Isle of Wight

Don't forget that Tasword *was given away on our covertape, and although it's not the ultimate word-processing system, it's not bad either –* VDE *is faster but much less user-friendly.*

VDE *is a CP/M program, and so you need to run it from your CP/M boot disk (if you don't have one, read your 6128 manual for instructions on how to create it) by typing* **|CPM** *and, at the* **A>** *prompt,* **VDE**. *To read the instructions, enter* **TYPE VDE.DOC** *(from CP/M).*

As you seem a bit unsure as to what to do, the best bet is to send off for a free copy of VDE *from PD library Sheepsoft. Their disc comes with very helpful and easy-to-follow instructions on how to get the program running. Write to Paul Fairman (World's Greatest* VDE *Fan) at 39 Woodlands Road, Barry, South Wales CF6 6EF – with the disc and an SAE.*

A note to PD libraries everywhere: distributing software without being able to offer help to its operation is a bit off. Andrew wasted £3.75 on something that was no use to him. Here's hoping it never happens again!

Think of a number

1. I have a 64k upgrade which I bought second-hand, so I didn't get any manuals or tapes, and I wondered: what does the tape do, and what are the extra commands?
2. The DDI-1 disk drive manual says it also comes with assembler and batch utilities. What do they do, and how do I use them?
3. The 40025 ROM that I bought from WAVE came with an installing sheet, but not a list of 6128 commands or how to use them. Could you tell me what the commands are?

Corruption scandal

Something odd is happening. I have a 6128 and have been reformatting my 3.5" disks with MS800, format 4. Two text files are misbehaving: BRIDPROB.TXT now loads another file, STDCODES.BIN. The original content seems to have vanished.

The size of STDCODES, after transferring it from another disc, was shown by **CAT** as 65k. When I loaded it into Masterfile, it appeared as 20k – much nearer the true figure, I'd say, and I've no idea what accounted for the extra 45k. Another text file, MAGREFS.BIN, was shown to be 66k in size but here again Masterfile indicated only 6k!

MS800's copier seems to resent certain types of file and stops almost before it starts. ROMDOS XL will do some, and CP/M Newsweep and PIP are often okay.

John Hawkins
Stevenage

Hmmm. When you load a text file in machine code, there is no way to tell how long it is, and so the value returned for its length is zero. If a copier blindly saves it out again with this length, then it will be taken to be 64k long (because 64k goes 'round the clock', like a car speedo, back to zero). Add a few bytes for the file header, and you have 65k (or 66k on a large format disc) – hence your problem. Basically, the MS800 copier isn't up to copying text files, and it seems to have trashed yours.

Solutions? Well, this listing will copy text files from drive A to B properly (for different drives, alter line 20 accordingly):

```
10 LINE INPUT "Filename: ",f$
20 OPENIN "A:"+f$: OPENOUT "B:"+f$
30 WHILE NOT EOF: LINE INPUT #9,a$
40 PRINT #9,a$: WEND
50 CLOSEOUT: CLOSEIN
```

Alternatively, you may want to look around for a better operating system. As you said, ROMDOS XL is more capable, and especially so when coupled with the excellent copier Maxidos *(see the Avatar ad). Alternatively, S-DOS's built-in copier will cope with any file you care to throw at it (STS Software, 58 Graiglwyd Road, Cockett, Swansea SA2 0XA).*

Angry of Gwent

I have a complaint to make. I had trouble with your covertape from AA 90. I sent it back to Ablex Audio Video, and when they sent another one back to me it was the same as the one I had returned. The trouble with mine was in the Type-Ins. In *Flags*, by Ross Riley, it loaded all right but when I try to run it, I get an error in line 150. So I listed it, and it only ran to line 140... another thing that was wrong is in *Number Scoffer* by Dean Jackson... I am very disappointed with the outcome of this service...
H R Meredith
Gwent

If there is a fault with the covertape itself, then the CPC will pick this up and give you a 'Read error'. Otherwise, it's the programs themselves which are at fault, so please don't send the tape back to Ablex. They can't help with the actual programs, but only with tapes duplicated badly.

Instead, write to us, but don't bite our heads off...! The reason that the programs did not work is because their authors used commands that the CPC 464 does not possess.

To test every Type-In we receive on a 464 would take up huge amounts of time, so all we can do is humbly ask would-be Type-In authors not to use these commands (see Mr Unreadable Surname's letter below).

4. I've also got a joystick splitter but when I play the games, the two characters copy each other's movements. Is this a fault, or does this always happen?
C Unreadable Surname
Somewhere

Ah, Technical Forum wouldn't be complete without a letter of numbered questions and someone who's forgotten their address. Anyway...
1. The tape gives you some extra commands (they're not built into the expansion) that let you use the extra memory in your own programs.
2. True, the CP/M disks do include an assembler. Unfortunately, it's for the predecessor of the Z80 processor used in the CPC (the 8080), and isn't much use at all. The batch utility SUBMIT.COM is rather nice, though.

Simply create a text file of CP/M commands you want executed, and call it (for example) COMMANDS.SUB. This is known as a batch file. Now, from CP/M, type SUBMIT COMMANDS (making sure that both SUBMIT.COM and COMMANDS.SUB are on the disk), and it will do them all for you. Handy hint: any batch file called PROFILE.SUB will be executed when you boot CP/M (so long as SUBMIT.COM is on the disk too).
3. The new functions are COPYCHR$(#stream), which copies a character from the current cursor position in that stream, DEC$(number,format), which formats a number in the same way as PRINT USING, and DERR, which returns the number of the most recent disk error.

New commands:
***CLEAR INPUT** clears the keyboard buffer (i.e. forgets about any keys pressed recently),*
***CURSOR a,b** enables or disables the cursor (a is the operating system control, and b the user control: 0 for off, 1 for on),*
***FILL ink** fills a shape in that colour,*
***GRAPHICS PEN ink** and **GRAPHICS PAPER ink** are fairly obvious,*
***MASK pattern**,starting point defines a binary pattern for drawing lines (so MASK &X11110000,4 makes all lines from now on dashed lines, starting in the middle of the pattern), and*
***ON BREAK CONT** disables the ESCape key completely.*

In addition, the MOVE command can take an extra pen ink parameter (in the same way as PLOT and DRAW), and MOVE, PLOT and DRAW (plus their relative equivalents) can take a fourth parameter indicating the plotting mode to be used (0 for normal, 1 for XOR etc.). Whew!
4. Since not many people have joystick splitters, games aren't generally written for them. However, if you select the 'Redefine Keys' option and set up the second player's controls by moving the second joystick appropriately, you should have more luck.

Insider

Concerning the article in AA90 on upgrading from 64k to 128k. Does this article only apply to 464 Plus models, or does it also apply to the earlier 464? The idea of the extra capacity being inside the machine instead of being plugged in at the back, seems to me to be a far better (and cheaper) idea.
Brian MacDonald
Grimsby

If only... Unfortunately, given the high price of 464 memory expansions, this isn't possible. The 464 Plus has basically the same circuitry as the 6128 Plus (which makes sense, really, it saves an awful lot on manufacturing costs for Amstrad), including sockets for an extra 64k.

But wouldn't you just know it – the 464, is a completely different design to the 6128.

Sorry.

In-depth delve

1. Do you know of a company that supplies a C compiler/language? (Hi-Soft used to!)
2. Is there an easy way to determine what is data and what is code in a hex dump, or is there a package that helps?
3. Is the Firmware Manual still available?
4. Is there an 'in-depth delve into the CPCs' book? I have the Advanced User's Guide Book 1.
5. To save disc space, I hope to convert some of my old BASIC type-ins to machine code. Any suggestions? Sorting through the BASIC interpreter disassembly is a nightmare.
Paul Collins
Poole

1. You could 'phone the various mail order suppliers and ask if they have any copies of Hi-Soft's version floating around. Alternatively, have a flick through some PD libraries' catalogues – a Small C interpreter (SCI) and compiler exist.
2. Well, if you use a disassembler, the bits that look like gibberish, or are full of zeros, are probably data. Look for familiar bytes in a hex dump. If a section has loads of common Z80 bytes like CD (CALL), C3 (JP), 21 (LD HL,...) and 3E (LD A,...), then it's almost certainly code.
3. No.
4. The Print-Out alternative version, although nowhere near as complete, is a possible alternative to SOFT 968. If the book you have is Daniel Martin's one, then it's one of the best there is. Apart from that, you'll need to search through the classifieds to see if anyone is selling their SOFT 968 Firmware Guide, 'Ins and Outs of the Amstrad', 'Anatomy of the CPCs', or other such book. (Remember that we're here to help, too. Techie Forum is equally at home with complicated operating system stuff as beginners' questions about disk drives!)
4. Don't simply convert instruction for instruction. Instead, build up a library of useful subroutines (such as number printing, etc.), and use these as replacements for the BASIC commands. Is it really worth it just to save disk space, anyway...? If you don't have a 3.5" drive, buy one now. This will save you more on disks than you'd think!

Multiface mix-up

I know you have answered some Multiface 2 questions in the March issue, but I have another I hope you can help me with. My son has a CPC 464 and my older son has a 6128 Plus. I would like to get them a Multiface 2, but wonder if it would be any good to them. Could one copy a tape on the 464, put the box on the 6128 Plus and transfer it to disc? Would it be any great advantage to either of them?AA is brilliant, a life-saver to us all.
Ms R Farrelly
Dublin

AA saving lives? Blimey, we'll be putting out fires and rescuing maidens in distress next. All the Multiface does is immediately copy what's in memory to disk. This means that, to transfer a game from tape to disk, you need both a tape recorder and a disk drive connected to the machine in question. You can buy a 3.5" disk drive for the 464 from Siren Software (3" ones aren't available any more), or for a cheaper alternative, 6128 Pluses can be modified to load from cassette, by Wave, STS Software, or Avatar.

Even then, there is a problem in that games transferred on one type of CPC won't run on another type (although a PD program called Anti-Multiface will remove this problem). Remember, too, that the Multiface for the Plus is different to

that for the CPC, and that copyright laws forbid you from playing the same game on two computers at once unless you buy two copies...!

If you still want to go ahead, then the main advantage is that your 6128-owning son will be able to play tape games without having to wait ages for them to load. Whether it's worth the expense of a Multiface and a tape conversion is debatable.

From CPC to Plus

1. How can I save and load the values of variables in BASIC programs on a CPC 464?
2. How can I print user-defined characters without paper colour behind? I wish to be able to print multi-coloured characters.
3. Can a GX4000 be connected to run tapes such as *Stryker* which make use of the extra hardware?

Paul Branney
Angus

1. Dead easy. Let's say you want to save the values of the variables name$ and price. You would use a line such as

```
OPENOUT "filename": PRINT #9,name$: PRINT #9,
price: CLOSEOUT
```

Then to reload them, use this line:

```
OPENIN "filename": LINE INPUT #9,name$: INPUT
#9,price: CLOSEIN
```

As you can see, you use LINE INPUT to reload strings, and INPUT to reload numeric variables. You must load the variables in the same order that you saved them in, too!
2. Use transparent mode. To turn it on: `PRINT CHR$(22)CHR$(1);`, *with* `PRINT CHR$(22)CHR$(0);` *turning it off.*
3. With a bit of work, yes. Watch out for a hardware project coming soon to an **AA** *near you...*

Memory loss

I want to load the adventure game *Colossal Caves* which is a very large game. I loaded it up on my previous computer (a 464) with no problems. I then noticed that if I added a disk drive the game failed to load, displaying a message saying 'Memory full in 1328'.

I recently bought a 6128 and tried to load the game on this. I was surprised to see that it didn't load and gave the same message.

This didn't make sense, because how could a 6128 not load a game that a 464 could for lack of memory? Is there any way that I could load this large BASIC program into my 6128?

K Baitson
Romford

Both computers have 42k available for BASIC programs. The extra 64k of the 6128 is only available to machine code programs, and is really not much use in BASIC unless you use a program like Bank Manager *(on the 6128 system disks).*

Whenever you use a disk drive on your CPC, the disk system (AMSDOS) reserves just over 1k of memory to keep a record of what disk drive you're using, and such things. This memory comes out of the space that you would otherwise use for BASIC programs, and is the reason why only a tape system has enough memory to use it.

However, if you disable AMSDOS, you will once again have enough memory. To do this, type in `SAVE` *and run this listing:*

```
10 MEMORY &7FFF: FOR n=&8000 TO &800F
20 READ a$: POKE n,VAL("&"+a$)
30 NEXT: CALL &8000
40 DATA 21,08,80,3E,00,C3,16,BD
50 DATA 3E,C9,32,CB,BC,C3,06,C0
```

Printer pleas

1. Is there any way of saving a program when a cassette file buffer is too big for the remaining memory in the computer, and the Memory Full error is reported?
2. How can you tell through the computer if the printer is turned on?
3. Is it possible to change my black-and-white printer to colour?
4. How can you print large characters on a printer without a word-processor?

Chris Morgan
Aldershot

1. Yes. But not without a fair dose of machine code trickery to put the buffer in the screen memory. You'd also need to find out the length of the program, which is stored in a different place on all three CPCs.

Presumably you didn't write all the program in one go, so delete the bits that haven't been changed or added, and save the rest. You can then work on slimming down each part (eg by removing unnecessary spaces, inverted commas at the end of lines, and REM statements), and merge the two together.
2. If INP(&F500) AND 64 is 0, then the printer is on-line.
3. Probably not. It depends what make your printer is. You'd be best off phoning the manufacturers and asking them.
4. Your printer may have a built-in control code for enlarged characters (many Star printers do, for example).

Unfortunately, you'll have to read the manual to find out. Otherwise, you'll need to use the printer's graphics commands, which isn't a job for the faint-hearted. Again, read the manual for details (but remember that the CPC can't output printer codes above 127).

Short and sweet

In BASIC, how do I make the computer wait for a certain length of time?

Edward Anderton
Devizes

Just enter this line:
`t=TIME: WHILE (TIME-t)/300<15: WEND`
where 15 can be replaced by the length of time you want it to wait (in seconds).

Speed it up!

I have recently finished a programming project, but my sprite routine is running too slowly, causing the sprites to flicker during screen refresh. Is there any way in which I can speed it up? The routine XORs what is on the screen with the sprite data.

Michael Willmott
Splott

First of all, are you sure that it's the fact that the sprite routine is too slow that is slowing the program down? The electron beam moves down the monitor, drawing the image as it goes, 50 times every second. If you are printing bytes in a certain area at the same time as they are being displayed, an unsightly flicker will result. To avoid this, synchronise your main program loop to start at the beginning of every frame, and arrange the printing of the different sprites so that this does not happen. You can perform the synchronisation by `CALL &BD19`, *or (for speed):*

```
.ff  ld b,&f5
.ffl in a,(c): rra: jr nc,ffl
```

If this doesn't work, you need to fiddle with the routine. I had a look at the listing you sent, and there's not much you can do to it to speed it up. The only major alteration could be that, instead of having a general-purpose sprite routine, it would be possible to write one for each size of sprite you're using. This way you could save on time by not bothering to preserve the previous line address and going down from that, but instead adding `&800` minus the width of the sprite in your 'next line down' routine. You wouldn't need to preserve the sprite width using PUSH and POP, but could just set it up at the start of each row with a simple LD.

The only other possibility is to use a normal, instead of XORed, sprite routine. This way you can use the Z80's fast LDIR copy instruction, as in the following sprite routine (copies a sprite stored at HL to screen address DE, width BC and height A):

```
.sprite  push bc: push de
         ldir
         pop de: ex de,hl
         ld bc,&800: add hl,bc
         jr nc,noovf
         ld bc,&C050: add hl,bc
.noovf   ex de,hl
         pop bc: dec a
         jp nz,sprite
         ret
```

Incidentally, when I ran this article through a spelling checker, it offered 'Almighty' as a correction for your surname...

Beginners' Questions

Data basics

My favourite hobby is train-spotting (don't laugh) and I keep the names and numbers of each train I spot, together with their type, where I saw them and when, using the *Protext* word-processor. However this is not too convenient, because I would like to be able to sort them by type and number to produce a good reference list. In addition, it is a real pain to try to find (for example) all the DMUs I spotted in 1992. Is there a better way to do it, or do I have to buy an IBM (as I have heard there are special train-spotting packages available for that computer)?

Keith Harbutts
Crewe

Protext isn't really the best program for your needs, as it was designed to be used to write letters, books, programs etc.—not to hold data. What you need is a database, the computerised equivalent of a card file, but a lot more powerful. Check out our feature on page 11.

If you don't want to spend too much money, you can use a PD database, such as Rambase 3 *(for 128k machines) or* PowerBase 2 *(if you only have 64k). Both of these should be available at any PD library you can think of. For a really top-notch database, have a look at* Masterfile 3*. It's not cheap at £29.95 (from MJC Supplies, 0462 481166), but the range of features it provides makes it well worth it. Try out the PD programs first, and if they're not powerful enough, consider buying a copy of* Masterfile.

Portable power

I am a freelance travel writer, but I'm not especially clued-up on computers. I bought a word-processing set-up based around an Amstrad CPC 6128, with an Epson LX800 printer and *Protext* word processor on disc. As you can imagine, it would be very useful for me to be able to directly type up my articles while abroad rather than having to hand-write them there and copy them into my CPC when I return home. Can I buy a portable 6128?

Mary Sleight
Barnet

Unfortunately not. Amstrad never attempted to squeeze a CPC into a small case – they only ever produced desk-bound models However, you can buy numerous small word-processors, such as the notebook Amstrad NC100 and Cambridge Z88, and the even smaller Psion Series 3. Any small machine with an 'RS232 interface' will do. This is the important bit, as it lets the notebook link up with your CPC (when fitted with a similar interface). You can then just type in your article on the notebook, transfer it via RS232 to your CPC, and edit and print it in Protext *there.*

An independent computer shop will be able to guide you as to what notebook to buy.

For an RS232 interface for your CPC, try Siren on 061 724 7572. ●

Top Tips

Trace element

BASIC's TRON command can be very useful for debugging programs. However, if you don't want it to mess up your screen display, use the following listing (which should only be run once).

```
10 MEMORY &9FFF: FOR n=&A000 TO &A039: READ a$
20 POKE n,VAL("&"+a$): NEXT: CALL &A000
30 DATA
3A,5A,BB,2A,5B,BB,32,28,A0,22,29,A0,3E,
C3,21,18
40 DATA
A0,32,5A,BB,22,5B,BB,C9,F5,FE,5B,CC,2B,
A0,CD,28
50 DATA
A0,FE,5D,CC,2B,A0,F1,C9,CF,FA,93,F5,C5,
D5,E5,01
60 DATA 00,07,CD,B7,BB,E1,D1,C1,F1,C9
```

Now define window 7 somewhere else on the screen (for example, try `WINDOW 1,40,1,24: WINDOW #7,1,40,25,25` for the bottom line). Hey presto – all the line numbers displayed when TRON is in operation will appear in this window. (This goes for anything else in square brackets, too, so try to avoid them!)

For the technically inclined, this works by intercepting the character print routine at `&BB5A`. Whenever a square bracket is encountered, it switches streams between #0 (the usual one) and #7 (the TRON window).

Image problem

Let's say that you're developing a ROM program and you want to test it, using one of those rather natty RAM-ROM widgets, in as many ROM sockets as you can. Ok so far, but what happens if one of the sockets is already occupied on your ROM-board and you still need that ROM (e.g. ROMDOS or S-DOS)?

Easy. Disable that socket on the ROM-board, and feed the ROM into the other 16k of the RAM-ROM. To do this, you need an 'image' of the appropriate ROM – and here's a program to let you make one.

```
10 MEMORY &3FFF: FOR n=&8000 TO &8015
20 READ a$: POKE n,VAL("&"+a$): NEXT
30 DATA DD,4E,00,CD,0F,B9,C5,21,00,C0,11,00,
   40O1,00,40
40 DATA ED,B0,C1,C3,18,B9
50 INPUT "Enter socket, filename: ",n,a$
60 CALL &8000,n: SAVE a$,b,&4000,&4000
```

This works by enabling the ROM in question, copying it down to &4000 in memory, restoring the previous ROM state, and saving the image.

Bug of the month

Reset your computer, and move the copy cursor (SHIFT and cursor keys) to the top left-hand corner of the screen. Now move the normal cursor straight up past it, causing the screen to scroll a little. Press ENTER. Strange. There are still two 'extra' cursors hanging about...!

The Amstrad's built-in cursor facilities can be very useful for producing interesting text effects, writing input routines, etc. BASIC 1.1 users can use the CURSOR command, but to ensure 464 compatibility, try CALL &BB81 in a program to switch the cursor on, and CALL &BB84 to turn it off. Here's a little subroutine for all you BASIC programmers out there using the technique:

```
1000 'Print string (a$)
1010 CALL &BB81: FOR n=1 TO LEN(a$)
1020 PRINT MID$(a$,n,1);: CALL &BD19: NEXT
1030 PRINT: CALL &BB84: RETURN
```

A line like `a$="Mornington Crescent": GOSUB 1000` will then print the string, character by character, with a cursor. (To slow it down a bit, insert a few more `CALL &BD19` commands in line 1020.) This makes on-screen instructions a bit more interesting, to name but one use.

Up with code

A quick assembly language subroutine to convert a character (code in A) into its upper case equivalent:

```
cp &61: ret c
cp &7B: ret nc
add &E0: ret
```

This is rather useful after keyboard input, to save having to test for both upper and lower case to see whether a specific jump is required.

Low

You get the latest, all-singing all-dancing, CP/M wonder-mega-program from your favourite PD library. Boot up CP/M and attempt to TYPE the instructions to the screen. No probs. So you run your AMSDOS word-processor, load the instructions, and are all ready to print when you realise something isn't quite right...

Many text files supplied with CP/M programs were prepared with a program, such as Wordstar, which sets the high bit of the last letter of each word (i.e. adds 128 to its ASCII code). CPC word-processors don't generally like this. Here's a program to convert them back into normal text:

```
10 INPUT "Original filename: ",o$
20 INPUT "New filename: ",n$
30 OPENOUT n$: OPENIN o$
40 WHILE NOT EOF: LINE INPUT#9,a$
50 FOR n=1 TO LEN(a$)
60 MID$(a$,n,1)=CHR$(ASC(MID$(a$,n,1))AND 127)
70 NEXT: PRINT#9,a$: WEND
80 CLOSEIN: CLOSEOUT
```

...and that's yer lot for this month. Don't forget, if you have any interesting serious CPC tips or questions then send 'em in to:

Technical Forum
Amstrad Action
30 Monmouth Street
Bath
BA1 2BW

Don't forget to mark your envelope 'Technical Forum' or those idiots in the office will think it's for them and everything will get terribly confused. ●

Type-ins

Oh no, it's that time again. Put the cat out, brew some coffee and settle down to some serious typing in...

Posters Wide

First up this month is a positively wonderful program by Keith Evans of Kent (author of AA71 Type-In, *Grid*) that prints posters! But, roars the readership, haven't we already seen a poster printer? But this isn't just any old poster printer. It's menu driven, and can print text across the page in sixteen widths and ten heights. It prints black on white and white on black! Ladies and gentlemen, this program can take a whole page of text at a time and show you the appropriate A4 size page layout as you type your text in...

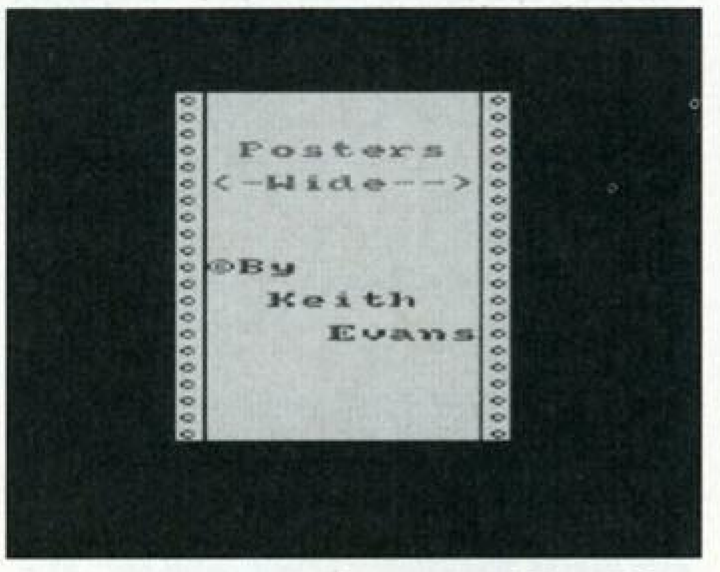
At the moment, the program is set up to work with Amstrad printers, so if you've got a different make, it's probably best to check the control codes in the following lines:

```
230 : Printer reset
910 : Printer reset
920 : Double strike
930 : Mini typeface
940 : Condensed
950 : 7/72 inch paper feed
```

Line 960 and lines 1010-1070 require a little further explanation. To print UDGs (User Defined Graphics) on an Amstrad printer, you must set DIP switch DS2-4 to the ON position.

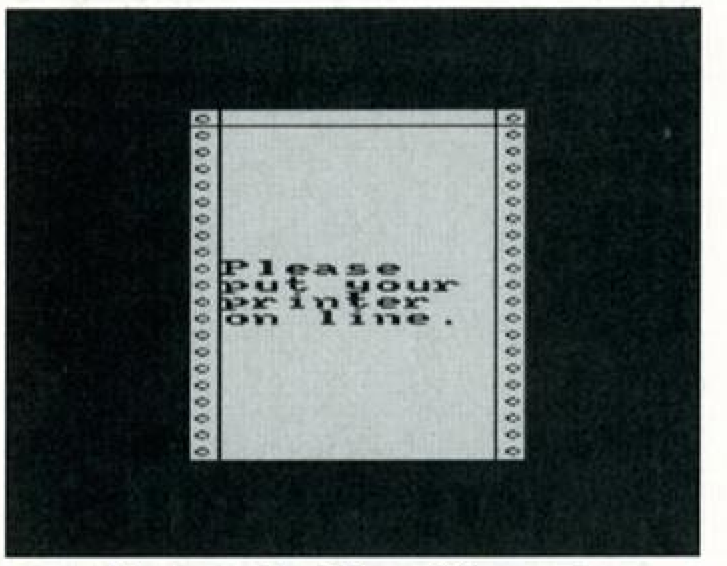
Anyway... Where were we?

```
FACP 10·REM·POSTERS·WIDE·1991
EAIJ 20·REM·KEITH·EVANS
FALN 30·MODE·0:GRAPHICS·PEN·5
GAIO 40·SYMBOL·255,1,1,49,73,73,49,1,1
JACE 50·SYMBOL·254,128,128,140,146,146,140,12
     8,128
KAJJ 60·WINDOW·#1,5,15,3,23:PAPER·#1,0:PEN·#1
     ,5:CLS#1
CACM 70·GOSUB·830
CALJ 80·PEN·#1,3,1
IAPO 90·LOCATE·#1,3,4:PRINT#1,"Posters"
IACJ 100·LOCATE#1,2,6:PRINT#1,"<-Wide-->"
CALG 110·PEN·#1,6
JAJB 120·LOCATE#1,2,11:PRINT#1,CHR$(164);"By"
IAAD 130·LOCATE#1,4,13:PRINT#1,"Keith"
IANF 140·LOCATE·#1,6,15:PRINT#1,"Evans"
GAOA 150·MOVE·128,32:DRAWR·348,0
FAIL 160·FOR·n=1·TO·2000:NEXT
CADP 170·GOSUB·830
FAJL 180·FOR·n=1·TO·1000:NEXT
DAMJ 190·DEFINT·a-z
IAKA 200·I$="You·have·selected"
EABG 210·DIM·pr(16,10,10)
DBPH 220·LOCATE·#1,2,10:PRINT#1,"Please","·pu
     t·your","·printer","·on·line."
FAOK 230·PRINT#8,CHR$(27)·+·"@";
```



Don't say we never give you anything. This is a really useful program and no mistake.

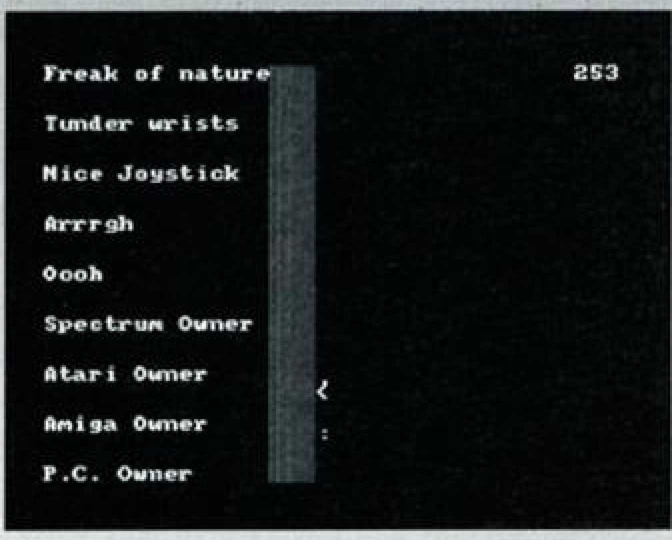
```
JALJ 240·ch=32:ch1=64:cp=1:tb=1:ht=1:w=0
KADN 250·MODE·1:PEN·1:CLEAR·INPUT:GOSUB·860:P
     EN·2
KEGK 260·CLS:PRINT"Enter·MAXIMUM·number·of·ch
     aracters·per··printed·line","Min=1·-·Max
     =";10+w:PEN·3:PRINT:PRINT"Total·amount·o
     f·letters·including·spacesto·be·printed·
     per·line·across·the·page·":PRINT:PRINT"i
     e..·GOOD·LUCK=9",:INPUT;cpp:PEN·1
OABC 270·IF·cpp<1·OR·cpp>w+10·THEN·SOUND·1,40
     0-cpp:GOTO·260
NAPP 280·wd=INT·((10+w)/cpp):IF·wd=1·THEN·wd1
     =wd:·GOTO·300
DDGD 290·PRINT:PRINT"You·can·have·"cpp"charac
     ters","with·a·width·of·up·to·times";wd"e
     ach":PRINT:PEN·2:INPUT"Enter·character·p
     rinted·width";wd1:PEN·1:IF·WD1>WD·THEN·2
     90
NBHB 300·PRINT:PRINT"Enter·character·height·M
     AXIMUM·10","PER·A4·PAGE·..((warning·10·i
     s·BIG))":INPUT;ht:CLS
KACG 310·WINDOW#2,23,cpp+22,10,20:PAPER#2,3:C
     LS#2
HCED 320·PEN·2:PRINT"NOW·ENTER·YOUR·TEXT·Per·
     A4·page","(Including·spaces)":LOCATE·1,1
     5:PEN·1:PRINT"Approximate·page·->":LINE·
     INPUT#2,"",T$:PEN·1:
JAFI 330·CLS:FOR·dp=1·TO·LEN(t$)·STEP·cpp
JAHC 340·PRINT·MID$(t$,dp,cpp):NEXT·dp
BBDO 350·PEN·3:PRINT:PRINT:PRINT"IS·THE·ABOVE
     ·CORRECT··Y/N":PEN·1:GOSUB·990
IACE 360·IF·K$="N"·OR·K$="n"·THEN·GOTO·230
EALP 370·FOR·A=1·TO·LEN(T$)
EADP 380·B$=MID$(T$,CP,CPP)
CADD 390·MODE·2
FACI 400·FOR·Lst=1·TO·cpp
EAKO 410·C$=MID$(b$,Lst,1)
HANC 420·IF·c$=""·THEN·d=32:·GOTO·440
LAKP 430·d=ASC(c$):REM·*·Text·translated·now
CAGC 440·c=2048
DAPB 450·LOCATE·1,1
EANB 460·PRINT·CHR$(d)
LAMJ 470·n=-16384:REM·*·1st·screen·location·*
DACM 480·FOR·t=2·TO·9
EALA 490·LOCATE·tb,t
DAJL 500·FOR·s=2·TO·8
DAHE 510·p=PEEK(n)
DAFN 520·p1=PEEK(n+1)
CANM 530·p1=p1/16
EANM 540·a$=BIN$(256+p+p1)
FACE 550·G=VAL(MID$(a$,s,1))
ABMB 560·REM·*·This·bit·prints·big·letters·on
     ·screen·*
HADG 570·IF·G=0·THEN·PRINT·CHR$(128);
HACG 580·IF·G>0·THEN·PRINT·CHR$(143);
EAHK 590·PR(Lst,t,s)=G
CAII 600·NEXT·s
CAOF 610·n=n+c
CALI 620·NEXT·t
JALD 630·tb=tb+9:IF·tb>81·THEN·tb=1:CLS
PBJB 640·NEXT·Lst:CLS:PRINT"PLEASE·WAIT...";"
     It's·not·my·fault·you've·only·got·a·smal
     l·printer·buffer·!"
FAFO 650·IF·ch1=0·THEN·ch1=64
DABM 660·FOR·t=1·TO·9
EACG 670·FOR·q=1·TO·ht
FAMI 680·FOR·Lst=1·TO·cpp
DAEM 690·FOR·s=2·TO·9
PADF 700·REM·*·This·bit·sends·data·to·your·pr
     inter·*
NAGE 710·IF·PR(Lst,t,s)=0·THEN·PRINT#8,STRING
     $(wd1,ch);
NAJH 720·IF·PR(Lst,t,s)>0·THEN·PRINT#8,STRING
     $(wd1,ch1);
CAMI 730·NEXT·s
DANG 740·NEXT·lst
EAGK 750·PRINT#8,·CHR$(13)
CANI 760·NEXT·q
CABJ 770·NEXT·t
EAJI 780·PRINT#8,CHR$(13)
NAKF 790·cp=cp+cpp:IF·cp<LEN·(T$)·THEN·TB=1:C
     LS;NEXT·a
BCHD 800·CLEAR·INPUT:MODE·1:PRINT"·Will·you·w
     ant·to·print:-":PEN·3:PRINT:PRINT·t$:PEN
     ·1:PRINT:PRINT"·again·Y/N·?":GOSUB·990
LAGF 810·IF·K$="y"·OR·K$="Y"·THEN·cp=1:tb=1:G
     OTO·370
CAHK 820·GOTO·220
EBPP 830·LOCATE·#1,1,21:PAPER·#1,2:PEN·#1,5:F
     OR·a=1·TO·21:PRINT#1,CHR$(255)TAB(11)CHR
     $(254);:NEXT
CAMJ 840·RETURN
```



It's well executed and incredibly easy to use. All you need now is something to advertise.

Wagglomania

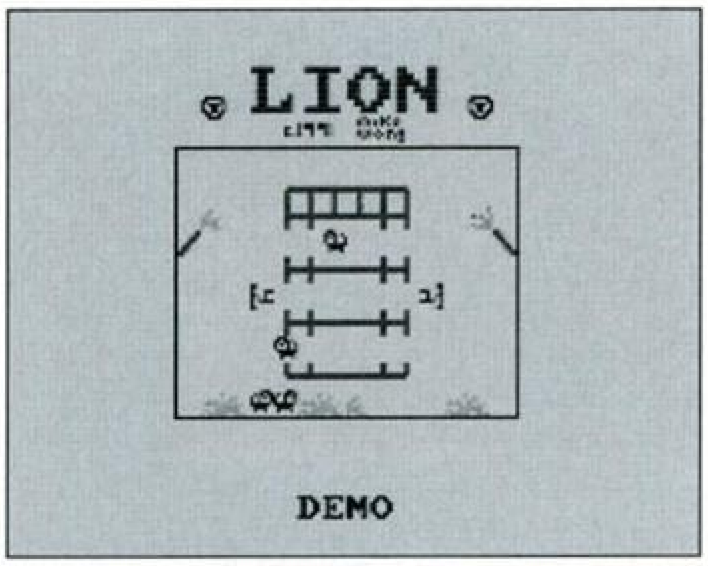
Remember those sports simulation games? You know, the ones where you just had to waggle your joystick as fast as you can to get the blokey to run, swim, or wrestle faster? James Page has got wise to the situation and sent in probably one of the strangest Type-Ins we've seen here at AA for a long time. Even if you're one of those people who usually just flicks through these pages, type this one in, 'cos it's totally brill!



Get straight on to the important waggling and cut out all that dull sporty nonsense.

```
CAGJ 10·111=400
BAIP 20·MODE·1
BANF 30·k=2
BAFI 40·a=12
BAHP 50·p=0.25
BAOO 60··h=289
CAFB 70·INK·0,0
CAPE 80·INK·1,26
BANL 90·PEN·1
CAJH 100·PAPER·0
CAAM 110·BORDER·0
BAFJ 120·CLS
OACJ 130·PRINT·CHR$(24);"··············Wagglo
     maina··············";CHR$(24)
CACE 140·PRINT
ACFL 150·PRINT"Just·push·your·joystick·right·
     and·left·as·fast·as·you·can·.·And·try·to
     ·reach·the·top·."
CAEE 160·PRINT
FBPL 170·PRINT"·To·change·skill·use·Joystick·
     and·push···············Up·or·Down"
CAGE 180·PRINT
IAGL 190·LOCATE·16,14:PRINT"Skill."p"··"
LALP 200·LOCATE·11,24:PRINT"Press·SPACE·to·pl
     ay"
GANH 210·IF·INKEY(47)<>-1·THEN·260
HABP 220·IF·INKEY(72)<>-1·THEN·p=p+0.25
HAFP 230·IF·INKEY(73)<>-1·THEN·p=p-0.25
JAHJ 240·IF·p<0.01·OR·p>1·THEN·p=0.25:GOTO·21
     0
CAKK 250·GOTO·190
GAID 260·CLS:WINDOW·#1,16,18,1,25
HCGM 270·DATA·Freak·of·nature,Tunder·wrists,N
     ice·Joystick,Arrrgh,Oooh,Spectrum·Owner,
     Atari·Owner,Amiga·Owner,P.C.·Owner
PAPK 280·M=1:FOR·r=1·TO·9:LOCATE·1,m:READ·a$:
     PRINT·a$:m=m+3:NEXT·r
DAGA 290·PAPER·#1,3
CAJA 300·CLS·#1
BBGL 310·IF·INKEY(74)<>-1·THEN·a=a+k:MOVE·h,a
     :TAG:PRINT"<";:TAGOFF:GOTO·360
PANH 320·IF·a<12·THEN·330·ELSE·a=a-p:MOVE·h,a
     :TAG:PRINT"<";:TAGOFF
JALP 330··111=111-1:LOCATE·35,1:PRINT·111
FAMB 340·IF·111<1·THEN·420
CAFK 350·GOTO·310
JAIK 360·IF·INKEY(75)<>-1·THEN·a=a+k:GOTO·310
PAII 370·IF·a<12·THEN·390·ELSE·a=a-p:MOVE·h,a
     :TAG:PRINT"<";:TAGOFF
NBON 380·IF·A>390·THEN·CLS:MODE·1:PRINT"Well·
     done·you·have·reached·the·top·!":FOR·r=1
     ·TO·6000·STEP·1:NEXT·r:RUN
JABO 390·111=111-1:LOCATE·35,1:PRINT·111
FAJB 400·IF·111<1·THEN·420
CAHK 410·GOTO·360
BCFO 420·CLS:PRINT"You·did·not·get·to·freak·o
     f·nature·but··never·mind·.·Who·wants·to·
     be·a·freak·of·nature·?"
HABK 430·FOR·r=1·TO·6000·:NEXT·r:RUN
```

```
ABDH 850·REM·**·The·printer·control·commands·
     are·here·*
DEGG 860·p$(1)="-·Normal·print·(also·clear·al
     l)":p$(2)="-·Double·strike":p$(3)="-·Med
     ium·typeface":p$(4)="-·Mini·typeface":p$
     (5)="-·Condensed·print·(Height)":p$(6)="
     -·Black·blocks":p$(7)="-·Inverse·print":
     p$(8)="-·Go·to·next·page"
IACP 870·FOR·a=1·TO·8:PRINT·a;p$(a):NEXT
FBLA 880·PRINT:PRINT:PEN·3:INPUT"PRESS·A·NUMB
     ER·OF·YOUR·CHOICE";N:IF·N>8·THEN·880:PEN
     ·1
GAFB 890·PEN·2:PRINT·i$;:PEN·3
JANF 900·ON·N·GOTO·910,920,930,940,950,960,97
     0,980
LAAF 910·PRINT·p$(n);:PRINT#8,CHR$(27)·+·"@";
     :GOTO·230
LADG 920·PRINT·p$(n);:PRINT#8,CHR$(27)·+·"G";
     :GOTO·880
MAKK 930··PRINT·p$(n);:PRINT#8,CHR$(27)·+·"M"
     ;:w=2:GOTO·880
LAAJ 940·PRINT·p$(n);:PRINT#8,CHR$(15);:w=6:G
     OTO·880
LAAF 950·PRINT·p$(n);:PRINT#8,CHR$(27)·+·"1";
     :GOTO·880
KABH 960·PRINT·p$(n);:GOSUB·1010:ch1=5:GOTO·8
     80
KAEE 970·PRINT·p$(n);:ch=ch1:ch1=32:GOTO·880
CABK 980·RETURN
GAMP 990·K$=INKEY$:IF·K$=""·THEN·990
CABM 1000·RETURN
LBBB 1010·REM·*·Warning·this·character·define
     r·may·only·works·on·Amstrad·printers·*
NACL 1020·PRINT#8,CHR$(27)·+·"&"·+·CHR$(0)·+·
     CHR$(5)·+·CHR$(5)·+·CHR$(11);
LAIK 1030·FOR·d=1·TO·11:READ·n:PRINT#8,CHR$(n
     );:NEXT
JAOJ 1040·PRINT#8,CHR$(27)·+·"%"·+·CHR$(1)·+·
     CHR$(0);
HAGN 1050·PRINT#8,CHR$(27)·+·"I"·+·CHR$(1);
GANA 1060·RESTORE·1070:RETURN
KAIH 1070·DATA·127,127,127,127,127,127,127,12
     7,127,127,127
```



Keep the stupid lions in their pens or they'll eat you. It's addictive and terribly good fun.

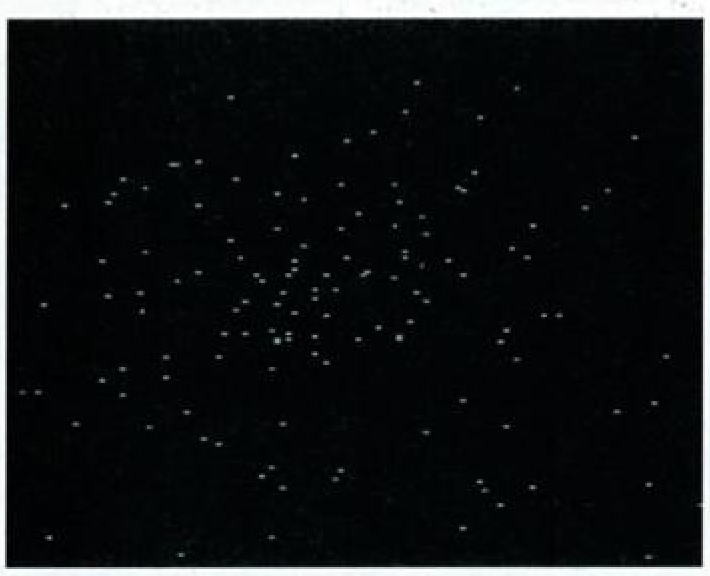
Lion

Mike Wong of Cheshire, 'the bloke with the POKE', *(Oh dear. – Ed)* has sent along an absolutely funky little game based around keeping the lions trapped in their cage. All instructions are included within the program, and you'll probably have more fun getting the hang of it that way, instead of me beating the thing to death here.

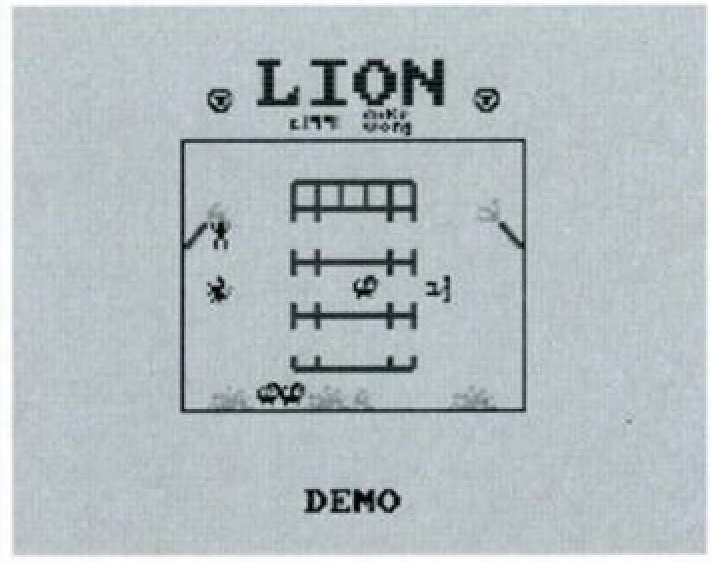
```
CAPD 10·GOTO·50
MABI 20·DI:zk$="":zk$=INKEY$:IF·zk$=""·THEN·E
     I:RETURN
HBAP 30·IF·zk$=CHR$(9)·THEN·LOCATE·18,22:PRIN
     T"PAUSED":CALL·&BB18:LOCATE·1,22:PRINT·C
     HR$(18):EI:RETURN
MAIK 40·CALL·&8000,INSTR("a]z\",LOWER$(zk$)):
     EI:RETURN
CAMO 50·GOSUB·1240
EAHI 60·EVERY·4·GOSUB·20
IAKG 70·DI:GOSUB·380:dem=0:lp=0:li=5
LAGB 80·FOR·n=1·TO·5:LOCATE·14,s(n):PRINT·zz$
     (n)
GAKN 90·NEXT:z$=CHR$(241)+CHR$(241)
LAGF 100·IF·INKEY$=CHR$(13)·THEN·op=6+NOT·op:
     lp=0
GAKH 110·IF·INKEY(47)<>-1·THEN·600
OANO 120·IF·op=2·THEN·LOCATE·22,17:PRINT"···"
     :LOCATE·17,17:PRINT·z$
ABDP 130·IF·op=3·THEN·LOCATE·17,17:PRINT"··":
     LOCATE·22,17:PRINT·z$;CHR$(241)
PAMH 140·lp=lp+1:IF·lp=300·THEN·dem=1:sc=330:
     EI:GOTO·600·ELSE·100
GAPK 150·'·small·routines
MAJB 160·ox=x:x=x+dx:DI:LOCATE·ox,y:PRINT"·":
     EI
KAPJ 170·DI:LOCATE·x,y:PRINT·CHR$(241+(x<21))
     :EI
FAHA 180·GOSUB·220:RETURN
KAML 190·RANDOMIZE·TIME:r=INT(RND*10)+1:RETUR
     N
KANI 200·fl=0:FOR·q=1·TO·3:IF·b=m(q)·THEN·fl=
     1
EAMA 210·NEXT:RETURN
HAGC 220·e=INT(sc/100):d=sc-100*e
EAAI 230·IF·e>4·THEN·e=4
KALG 240·re=9-e-((d-50)/10):IF·re>9.8·THEN·re
     =10
GAHL 250·FOR·d=1·TO·re*30·STEP·40
FAGL 260·FOR·dd=1·TO·50:NEXT
EACB 270·NEXT:RETURN
KAPP 280·FOR·s=1·TO·6:IF·b=mo(s)·THEN·mo=s:s=
     7
EAEB 290·NEXT:RETURN
JABP 300·FOR·d=1·TO·30:CALL·&BD19:NEXT:RETURN
MANP 310·FOR·d=1·TO·150:IF·INKEY(47)<>-1·AND·
     li=0·THEN·dd=1
EAOA 320·NEXT:RETURN
DBNP 330·DI:IF·dem=1·THEN·EI:RETURN·ELSE·LOCA
     TE·38,1:PRINT·USING"###";sc:EI:RETURN
MALO 340·z$=STRING$(li,CHR$(249)):z$=z$+SPACE
     $(10-LEN(z$))
MAMC 350·DI:LOCATE·4,1:PEN·2:PRINT·z$:PEN·1:E
     I:RETURN
OAMJ 360·IF·sc>hi·THEN·LOCATE·20,1:PRINT·USIN
     G"###";sc:hi=sc
CAKJ 370·RETURN
IAKN 380·FOR·n=11·TO·15·STEP·2:LOCATE·17,n
HALG 390·PRINT·SPACE$(8):NEXT:CLS#1
OALD 400·LOCATE·17,13:PRINT·CHR$(&F2):LOCATE·
     24,13:PRINT·CHR$(&F3)
```

```
IALM 410·POKE·&807E,13:POKE·&8075,13:RETURN
GAMK 420·'get·lions·moves
HACC 430·IF·r=1·THEN·mv=3:RETURN
HAEC 440·IF·r(4·THEN·mv=2:RETURN
EAEC 450·mv=1:RETURN
HAEC 460·IF·r=1·THEN·mv=2:RETURN
HAIC 470·IF·r(4·THEN·mv=3:RETURN
EAHC 480·mv=1:RETURN
HAMC 490·IF·r(5·THEN·mv=4:RETURN
EACC 500·mv=3:RETURN
HAGC 510·IF·r(3·THEN·mv=7:RETURN
HALC 520·IF·r(5·THEN·mv=9:RETURN
EAHC 530·mv=5:RETURN
HAIC 540·IF·r=1·THEN·mv=7:RETURN
HAKC 550·IF·r(4·THEN·mv=6:RETURN
EAKC 560·mv=5:RETURN
HANC 570·IF·r(3·THEN·mv=8:RETURN
EAOC 580·mv=7:RETURN
DADB 590·'start
NAFL 600·DI:GOSUB·380:IF·dem=1·THEN·LOCATE·19
     ,21:PRINT"DEMO"
NAKN 610·IF·op=2·THEN·m(1)=10:m(2)=11·ELSE·m(
     1)=4:m(2)=11:m(3)=16
KAOF 620·FOR·p=1·TO·op:b=m(p):x=FNx:y=FNy
JABB 630·LOCATE·x,y:PRINT·CHR$(241+(x(21))
GAKN 640·NEXT:GOSUB·330:GOSUB·340
GADC 650·GOSUB·300:GOSUB·300:EI
FAOM 660·'·main·routine
LABB 670·FOR·p=1·TO·op:GOSUB·190:IF·r(=5·THEN
     ·1000
IAHP 680·GOSUB·190:b=m(p):x=FNx:y=FNy
EADJ 690·IF·r(=3·THEN·800
EADG 700·GOSUB·280:ch=0
KAKP 710·GOSUB·190:ON·mo·GOSUB·430,460,490,51
     0,540,570
LAHA 720·dx=mx(mv):dy=my(mv):ox=x:oy=y
JAKJ 730·x=x+dx:y=y+dy:b=FNb:GOSUB·200
ABKE 740·IF·fl=1·THEN·x=ox:y=oy:ch=ch+1:IF·ch
     =2·THEN·1000·ELSE·710
MAPD 750·DI:LOCATE·ox,oy:PRINT"·":EI:DI:LOCAT
     E·x,y
GAOK 760·PRINT·CHR$(241+(x(21)):EI
GAJI 770·SOUND·1,300,5,7:GOSUB·220
IABD 780·IF·dem·AND·FNdm()26·THEN·1120
JAMD 790·m(p)=b:GOSUB·190:IF·r(=7·THEN·1000
JALJ 800·dy=0:IF·x=20·THEN·dx=-1·ELSE·dx=1
LAPD 810·SOUND·5,14,5,7:GOSUB·160:GOSUB·220:G
     OSUB·190
EAEJ 820·IF·r(=5·THEN·840
KAAB 830·dx=-dx:GOSUB·160:GOSUB·220:GOTO·1000
FABG 840·GOSUB·160:GOSUB·220
LALK 850·DI:tp=PEEK(&807E+(x(21)*9):IF·tp=y·T
     HEN·950
FAMN 860·'·lion·escapes!
KADF 870·GOSUB·160:li=li-1:GOSUB·340:GOSUB·30
     0
FAAO 880·LOCATE·x,y:PRINT"·"
HAHJ 890·IF·x(21·THEN·x=17·ELSE·x=24
MAMI 900·FOR·n=11·TO·15·STEP·2:LOCATE·x,n:PRI
     NT"·":NEXT
HAAJ 910·IF·x(21·THEN·x=15·ELSE·x=26
KADC 920·GOSUB·1140:GOSUB·1220:IF·li=0·THEN·1
     080
DAGM 930·p=4:GOTO·600
HAKA 940·'·attack·repelled!
JAJI 950·EI:SOUND·5,17,5,7:dx=-dx:GOSUB·160
HAPF 960·sc=sc+2+dem*10:GOSUB·220
HAFN 970·GOSUB·330:GOSUB·160:GOSUB·220
LAIP 980·IF·sc=200·OR·sc=400·OR·sc=500·THEN·G
     OSUB·1020
HABA 990·IF·sc=998·THEN·GOSUB·1030
EAAF 1000·NEXT:GOTO·670
FAAJ 1010·'·extra·lives
KAIM 1020·DI:q=li+1:r=li:GOSUB·1040:EI:RETURN
PAII 1030·DI:q=5:r=0:GOSUB·1040:GOSUB·360:sc=
     0:GOSUB·330:EI:RETURN
```

```
KAMH 1040·FOR·n=1·TO·6:li=q:GOSUB·300:GOSUB·3
     40
IAJP 1050·SOUND·1,2000,20,15:li=r:GOSUB·300
KAPN 1060·GOSUB·340:NEXT:li=q:GOSUB·340:RETUR
     N
EAFK 1070·'·game·over
PAAE 1080·IF·dem·THEN·GOSUB·1140:GOSUB·1220:o
     p=6+NOT·op:GOTO·1120
NAIA 1090·GOSUB·360:LOCATE·14,19:PRINT"SPACE.
     .restart"
FANJ 1100·GOSUB·1140:GOTO·1100
HAFC 1110·CLS#1:GOSUB·1220:GOSUB·300
EABC 1120·sc=0:GOTO·70
IAIG 1130·'·up·the·tree·routine
IAOF 1140·DI:LOCATE·x,11:PRINT·CHR$(244)
FAAF 1150·dd=0:FOR·n=1·TO·4
JANC 1160·LOCATE·x,15:PRINT·CHR$(241+(x(21))
IAEG 1170·GOSUB·310:LOCATE·x,15:PRINT"·"
JAED 1180·LOCATE·x,13:PRINT·CHR$(248+(x(21))
IAEG 1190·GOSUB·310:LOCATE·x,13:PRINT"·"
EAKP 1200·IF·dd=1·THEN·1110
EAND 1210·NEXT:RETURN
IAIA 1220·LOCATE·x,11:PRINT"·":RETURN
CABO 1230·'·init
HAPO 1240·MODE·1:INK·0,13:INK·1,0:INK·2,3
JAFK 1250·INK·3,13:BORDER·13:WINDOW#1,1,40,19
     ,25
JAGN 1260·PLOT·207,288,1:DRAWR·225,0:DRAWR·0,
     -161
GAKH 1270·DRAWR·-225,0:DRAWR·0,161
HAFK 1280·DEFINT·a-q,s-y:DEFSTR·z
MAHJ 1290·FOR·n=240·TO·253:READ·s1,s2,s3,s4,s
     5,s6,s7,s8
LANF 1300·SYMBOL·n,s1,s2,s3,s4,s5,s6,s7,s8:NE
     XT
HAGF 1310·DATA·112,218,169,137,127,62,34,0
HALC 1320·DATA·14,91,149,145,254,124,68,0
IAHD 1330·DATA·192,192,135,196,164,159,128,19
     2
GAKC 1340·DATA·3,3,225,35,37,249,1,3
GAGJ 1350·DATA·90,90,60,24,24,36,36,36
HACA 1360·DATA·0,0,48,96,212,248,248,158
GAAF 1370·DATA·0,3,2,41,125,7,111,191
HAIF 1380·DATA·16,24,136,121,114,186,60,80
GABK 1390·DATA·8,24,17,158,78,93,60,10
HALI 1400·DATA·126,195,189,153,219,102,60,0
GAFB 1410·DATA·0,0,5,197,132,212,0,0
GANB 1420·DATA·0,0,221,221,69,69,0,0
GAPO 1430·DATA·80,170,170,0,169,170,81,0
GAHO 1440·DATA·164,202,172,0,51,171,41,3
KALH 1450·PEN·3:PRINT"LI";TAB(17);"HI";TAB(35
     );"SC"
GAEM 1460·LOCATE·1,25:PRINT"LION"
JAEE 1470·FOR·x=0·TO·64:FOR·y=0·TO·16·STEP·2
ABAK 1480·IF·TEST(x,y)=3·THEN·PLOT·x*2+256,y*
     2+306,1:PLOT·x*2+256,y*2+308,2
MANC 1490·NEXT:NEXT:LOCATE·1,25:PRINT·CHR$(18
     );:INK·3,9
FAGH 1500·PEN·1:PLOT·278,306,1
KAMH 1510·z$=CHR$(250)+CHR$(251)+"·"+CHR$(252
```



Ah, now, yes. I know it looks like a load of dots here, but in real life it's quite beautiful.



Is that a London bus at the top there, or is it my imagination? Probably just me, really.

```
     )+CHR$(253)
JALH 1520·TAG:PRINT·z$;:TAGOFF:z$=CHR$(249)
GAOA 1530·LOCATE·15,6:PRINT·z$
GABB 1540·LOCATE·26,6:PRINT·z$
GABB 1550·t=0:y=9:LOCATE·14,y
GAIP 1560·READ·n:IF·n(100·THEN·1590
GAOI 1570·d=INT(n/100):e=n-100*d
LAAO 1580·n=e:FOR·q=1·TO·d:GOSUB·1620:NEXT:GO
     TO·1650
NALN 1590·IF·n)59·THEN·PRINT·SPACE$(n-60);:t=
     t+n-60:GOTO·1650
HADL 1600·IF·n(4·THEN·PEN·n:GOTO·1560
FAAL 1610·GOSUB·1620:GOTO·1650
FACP 1620·IF·n(47·THEN·n=n+200
FANO 1630·IF·n(60·THEN·n=n+100
IAIG 1640·PRINT·CHR$(n);:t=t+1:RETURN
IBJB 1650·IF·t)13·THEN·t=0:y=y+1:LOCATE·14,y:
     IF·y=14·THEN·RESTORE·1690·ELSE·IF·y=16·T
     HEN·RESTORE·1700
FADD 1660·IF·y()18·THEN·1560
IAGI 1670·DATA·2,64,50,458,56,64,61,3,45,62,2
     ,51
IABG 1680·DATA·59,255,59,57,62,3,46,61,2,4,72
     ,5
GAGO 1690·DATA·64,51,59,254,59,57,64,74
HAIM 1700·DATA·64,47,55,254,55,53,64,61,3,46
GAAN 1710·DATA·45,62,46,245,63,46,45,61
KAKI 1720·DIM·m(3),mx(9),my(9),mo(6),s(5),zz$
     (5)
GAMJ 1730·sc=0:hi=0:op=2:PEN·1
GAGP 1740·DEF·FNx=b+16-6*(FIX(b/7))
GAPA 1750·DEF·FNy=FIX(b/7)*2+11
FAEH 1760·DEF·FNb=x+(3*y)-49
IALJ 1770·DEF·FNdm=PEEK(&807E)+PEEK(&8075)
KADF 1780·FOR·n=1·TO·9:READ·mx(n),my(n):NEXT
FAMP 1790·DATA·0,2,1,2,1,0,1,-2,0,-2
FADM 1800·DATA·-1,-2,-1,0,-1,2,0,-4
IAAH 1810·FOR·n=1·TO·6:READ·mo(n):NEXT
EAMP 1820·DATA·4,10,16,17,11,5
KALA 1830·FOR·n=1·TO·5:READ·s(n),zz$(n):NEXT
IAAD 1840·DATA·19,"ENTER...option",20
HAOE 1850·DATA·"SPACE....start",22
HAHA 1860·DATA·"TAB......pause",23
GAPE 1870·DATA·"A.....up.....]",24
GANE 1880·DATA·"Z....down....\"
IAPD 1890·IF·PEEK(&8000)=&DD·THEN·RETURN
FAFM 1900·MEMORY·&7FFF:l=1960
HADE 1910·FOR·n=&8000·TO·&8080·STEP·12
MALH 1920·READ·z$:FOR·p=0·TO·11:s=VAL("&"+MID
     $(z$,p*2+1,2))
JAME 1930·POKE·n+p,s:c=c+s:NEXT:READ·z$
JAGC 1940·ch=VAL("&"+z$):IF·c()ch·THEN·2070
HANC 1950·l=l+10:c=0:NEXT:RETURN
JAOK 1960·DATA·dd7e00b7c8f5e601b7282d21,5e3
IADP 1970·DATA·6f802264803a758047f1fe01,55b
JAHL 1980·DATA·280f78fe0fc8d03271803c3c,4ef
JALC 1990·DATA·327580183a78fe0bc8d83271,53d
IAEI 2000·DATA·803d3d327580182b21788022,39f
IAJO 2010·DATA·64803a7e8047f1fe02280f78,503
JAJH 2020·DATA·fe0fc8d0327a803c3c327e80,579
```



Similarly, this just looks like a load of dull squarish shapes, but wait till you see it work.

```
JAKN 2030·DATA·180d78fe0bc8d8327a803d3d,4ec
JABG 2040·DATA·327e802100007eb7c8cd5abb,530
JAFC 2050·DATA·2318f71f110d201f110df200,2be
IANL 2060·DATA·1f180d201f180df300000000,19b
IAKC 2070·PRINT"Error·in·line";l
```

Animator

We see a lot of tosh here in Type-Ins, folks, but every now and again, a truly excellent demonstration of a simple technique comes along that knocks us all flying. So the award for excellent usage of an old technique goes to Jonathan Page of High Wycombe for his truly excellent palette switching demo.

```
GABA 10·REM·The·Animator
CACL 20·REM·1/1/93
CABB 30·INK·0,0
CACJ 40·BORDER·0
CANE 50·PAPER·0
BAMP 60·MODE·1
BALL 70·PEN·1
CAPB 80·INK·1,8
DACC 90·LOCATE·12,2
HADF 100·PRINT·"THE·ANIMATOR·MENU"
BAHO 110·PEN·2
CAGH 120·INK·2,21
DAEF 130·LOCATE·15,6
GAEI 140·PRINT·"1.·Snowdown"
HAJP 150·PRINT·TAB(15)"2.·Fountain"
HAJI 160·PRINT·TAB(15)"3.·Sparkle"
HAEK 170·PRINT·TAB(15)"4.·Rotator"
GAOL 180·PRINT·TAB(15)"5.·Tubes"
CAHE 190·PRINT
GAJE 200·PRINT·TAB(15)"0.·Exit"
BAHO 210·PEN·1
DAEF 220·LOCATE·5,16
OANE 230·PRINT·"Use·Space·to·exit·each·animat
     ion"
DAFF 240·LOCATE·2,18
PAHN 250·PRINT·"Use·keys·Z,X,],\·to·control·a
     nd·Return"
OAGG 260·PRINT·TAB(6)"to·animate·in·programs·
     3·and·5"
BAPO 270·PEN·3
CADI 280·INK·3,26
DAII 290·LOCATE·14,22
HALH 300·PRINT·"Public·Domain"
CABE 310·PRINT
KAKA 320·PRINT·TAB(12)"By·Jonathan·Page."
DAMB 330·a$=INKEY$
GANL 340·IF·a$<"0"·OR·a$>"5"·THEN·330
EADO 350·IF·a$="0"·THEN·END
CAOC 360·MODE·0
DAOP 370·FOR·a%=1·TO·15
CAFP 380·INK·a%,a%
BALP 390·NEXT
IAHP 400·ON·VAL(a$)·GOSUB·430,610,780,1050,12
     70
CAEH 410·GOTO·60
FAJB 420·REM·Snowdown
BAML 430·s%=0
EACD 440·x%=RND*1280-640
CAIC 450·y%=400
EALI 460·c%=INT(RND*15)+1
EANJ 470·xi%=((RND*5)+1)*4
EAMM 480·yi%=-((RND*5)+1)*4
EAHD 490·PLOT·x%,y%,c%
CAOF 500·c%=c%+1
EAGP 510·IF·c%=16·THEN·c%=1
DAPF 520·x%=x%+xi%
DADG 530·y%=y%+yi%
HAGA 540·IF·x%<640·AND·y%>0·THEN·490
CADI 550·s%=s%+1
EAGN 560·IF·s%<100·THEN·440
BAJO 570·c%=26
DAJC 580·GOSUB·1560
CAOJ 590·RETURN
EAOP 600·REM·Fountain
DAKP 610·FOR·a%=1·TO·50
DAEI 620·x=320:y=200
EAKI 630·c%=INT(RND*15)+1
EADB 640·xi=RND*15-7.5
DAJK 650·yi=RND*10+5
DAMO 660·PLOT·x,y,c%
DAOH 670·yi=yi-0.5
CAHP 680·x=x+xi
CALP 690·y=y+yi
CAAG 700·c%=c%+1
EAIP 710·IF·c%=16·THEN·c%=1
IAML 720·IF·x>0·AND·x<639·AND·y>0·THEN·660
BAJP 730·NEXT
BACO 740·c%=11
DAIC 750·GOSUB·1560
CANJ 760·RETURN
EAEJ 770·REM·Sparkle
BAFL 780·c%=1
DAMI 790·x=320:y=200
DAPI 800·xi=0:yi=0
BAPK 810·d%=0
DAGC 820·GOSUB·1470
DAOM 830·FOR·a%=1·TO·5
IAOD 840·PLOT·x+RND*20-10,y+RND*20-10,c%
BAMP 850·NEXT
CAJG 860·d%=d%+1
EABH 870·IF·d%<5·THEN·910
BAGL 880·d%=0
CAKG 890·c%=c%+1
EAJP 900·IF·c%=16·THEN·c%=1
HAGE 910·IF·INKEY$<>CHR$(13)·THEN·820
DADM 920·RESTORE·1030
DAPM 930·FOR·a%=0·TO·6
DAIF 940·READ·c%(a%)
BANP 950·NEXT
BACL 960·a%=0
CAFG 970·a%=a%+1
EAMN 980·FOR·b%=a%·TO·a%+6
GANL 990·INK·(b%·MOD·15)+1,c%(b%-a%)
CAAC 1000·NEXT
GACC 1010·IF·INKEY$<>"·"·THEN·970
CADM 1020·RETURN
EAAP 1030·DATA·0,4,1,9,12,15,3
EAEN 1040·REM·Rotator
GAAJ 1050·FOR·x%=40·TO·639·STEP·40
FALI 1060·GRAPHICS·PEN·x%/40
GAAG 1070·FOR·y%=0·TO·399·STEP·20
DAOC 1080·MOVE·0,200
DAPJ 1090·DRAW·x%,y%
DAAJ 1100·DRAW·639,200
CACC 1110·NEXT
CADC 1120·NEXT
EAKC 1130·FOR·a%=2·TO·15
DAIC 1140·INK·a%-1,0
FAIK 1150·INK·a%,INT(RND*25)+1
FAFK 1160·FOR·b%=1·TO·50:NEXT
CAIC 1170·NEXT
HANC 1180·IF·INKEY$="·"·THEN·RETURN
GAIA 1190·FOR·a%=14·TO·1·STEP·-1
DADC 1200·INK·a%+1,0
FAFK 1210·INK·a%,INT(RND*25)+1
FACK 1220·FOR·b%=1·TO·50:NEXT
CAFC 1230·NEXT
HAKC 1240·IF·INKEY$="·"·THEN·RETURN
DAGA 1250·GOTO·1130
DAAP 1260·REM·Tubes
DAKL 1270·x=320:y=240
DACM 1280·xi=0:yi=0
BACO 1290·c%=1
DAAF 1300·GOSUB·1470
HAGA 1310·s%=SQR(xi*xi+yi*yi)
EACO 1320·GRAPHICS·PEN·c%
EAOB 1330·MOVE·x,y+s%
EAGB 1340·DRAW·x+s%,y
EAJB 1350·DRAW·x,y-s%
EAKB 1360·DRAW·x-s%,y
EAJB 1370·DRAW·x,y+s%
DAAG 1380·MOVE·x,y
CAML 1390·FILL·c%
CAOI 1400·c%=c%+1
FAGC 1410·IF·c%=16·THEN·c%=1
HANJ 1420·IF·INKEY$<>CHR$(13)·THEN·1300
BAFO 1430·c%=8
DAFF 1440·GOSUB·1560
CAKM 1450·RETURN
HAFH 1460·REM·Control·System
HAGL 1470·xi=xi+INKEY(63)-INKEY(71)
HAGL 1480·yi=yi+INKEY(19)-INKEY(22)
FANJ 1490·x=x+xi:y=y+yi
GAHL 1500·IF·x<10·THEN·x=10:xi=0
HAKD 1510·IF·x>629·THEN·x=629:xi=0
GAML 1520·IF·y<10·THEN·y=10:yi=0
HAFE 1530·IF·y>389·THEN·y=389:yi=0
CAKM 1540·RETURN
HAJH 1550·REM·Colour-cycling
BAAO 1560·a%=1
FAEA 1570·INK·(a%·MOD·15)+1,0
CADJ 1580·a%=a%+1
FAOF 1590·INK·(a%·MOD·15)+1,c%
CACF 1600·FRAME
GAFF 1610·IF·INKEY$<>"·"·THEN·1570
CAJM 1620·RETURN
```

Aaargh!

Now I know we're being picky here, but there are just three more things we'd like to say about people sending in programs for inclusion in these pages:

1 Please, please don't send in paper print-outs, unless your program is very short. We honestly don't have time to type in loads of mammoth listings, and your hours of hard work just hits the recycling bin with a dull thud.

2 Don't expect to see your program appear immediately. We get a lot of programs each month, and we can't promise to sort them all out immediately. If you wait a while, your program will probably see the light of day, but please be patient.

3 Because of this time period, we can't promise to return discs immediately either, but once again, if you're patient, it should turn up.

United We Stand

Just who are the UAUG? An animal rights group? A right wing militant faction? A censorship committee? An independent CPC user group? We sent Simon Forrester to dig out the truth.

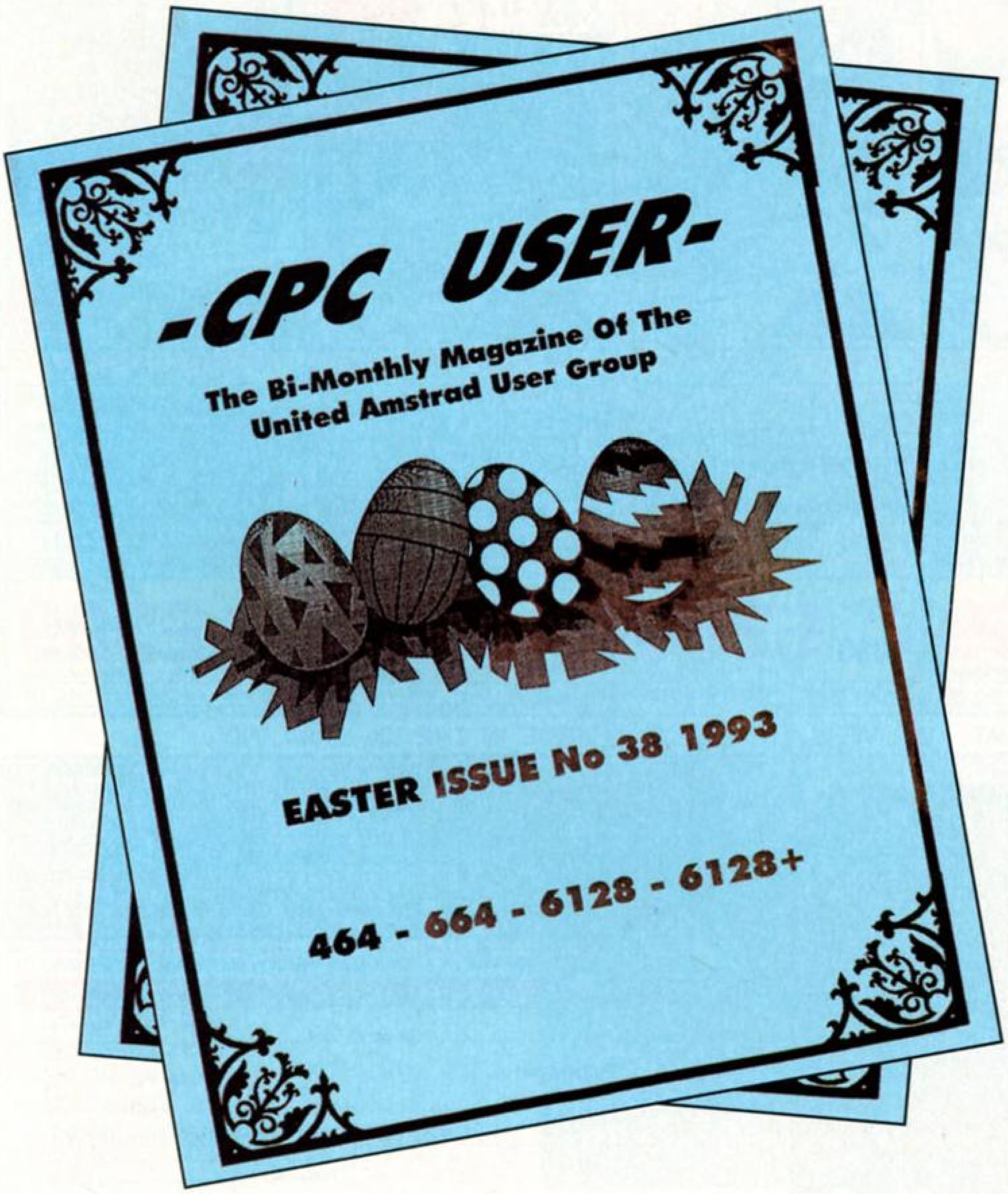
As we all know, quite a few people read ***AA***, and in many ways, we're just a big user group. However, we're not the only ones. There are many other non-commercial magazines out there, each with their own following. One of the larger organizations that you'll have no doubt heard about is the United Amstrad User Group.

So what are they? Well, they have several strings to their bow:

A Magazine

Probably the most obvious side to the UAUG is their bi-monthly publication, CPC User. It's in a fairly chunky 30 page A4 format, with the emphasis on content rather than graphical fancy work. That's not to say it's not appealing to look at though – the pages are all arranged nicely, but there is a satisfyingly large amount of text as well. Speaking from a fellow writer's point of view, the magazine is nicely written, with a clear and informative style. As for actual subject matter, you'll find it as wide and varied as AA, with technical ,help, adventuring, etc.

Obviously there are some down sides to the magazine in comparison to full commercial offerings, but these are compromises in production, not content, and the quality isn't massively affected.



A Discount Scheme

One bonus of membership that'll appeal to a lot of people is a rather nifty discount scheme. The way it works is simple. If you're buying software/hardware from a participating supplier, simply belonging to the UAUG can get you massive discounts on certain products. Looking through the range of offers available, it's clear to see just how well the scheme works. Some companies are offering up to 30% discounts on some titles.

A PD Library

And so the group branches out yet again with two (yes, two) public domain libraries. The first is a tape library, and the second supports discs. This seems like quite a nice arrangement, as the PD scene is legendary for hating tape users – reproducing a PD collection onto tape takes aeons (about 60 times longer than a disc).

A Book Library

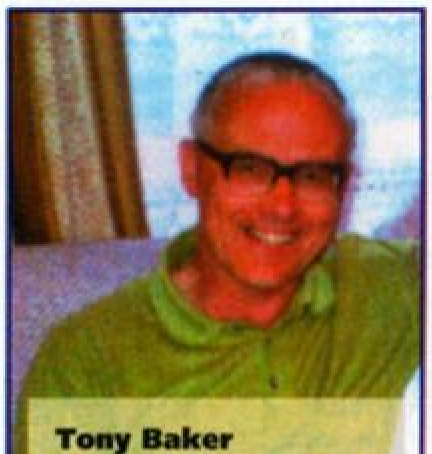
Now here's something new. It's very rare that a user group will have a book library, but the idea is a very good one. After all, why shell out lots of cash for expensive reference books, when you could just send off for the book you want, take the information from it, and send it on back! That's the beauty of having a smaller group, you see – you can run schemes like this effectively.

Helplines

Another excellent benefit from joining the UAUG is the vast array of people who can be contacted for help in a particular field. As a service, this could prove invaluable to many readers who are having problems with an aspect of their computing, and have no-one else to seek out for advice.

Who's who

Of course, an organization like this takes a lot of manpower, which is where the individual figures in the group come into play. We spoke to some of them, to find out who they are, how they help the UAUG, and what they hope to do in the future with the CPC.


Tony Baker

First, we have Tony Baker, the chairman of the whole organization, who keeps everything on course and running smoothly:

I joined the UAUG after seeing a leaflet in my local computer store. Within a few months I became Distribution Officer (distributing CPC USER), and was then talked into taking over as Chairman.

As my address and phone number is used in all our publicity leaflets and magazine adverts, most new members contact me for further details. I try to answers all queries by return of post, as I know how annoying it is to be kept waiting a long time for replies.

My other official duty is to call meetings of our Committee, and then send out copies of the Minutes to all officers. I also receive the master copy of each issue of CPC USER. I deliver this to the school that does all our printing, and then later collect the 400+ copies and hand them over to Alan Stead for distribution.

My unofficial duties arise from the fact that my phone number reaches all parts of the world via the computer press. I have had phone calls from as far away as Australia and California.

Next up, there's the executive editor of the magazine, Steve Hayward:

I was very pleased with my choice of computer, and spent many years playing games and doing the odd bit of programming.

Like many people, there came a time when my interest in game playing waned. Consequently I didn't touch the computer for a while. Over a year in fact. Then one day I started messing around with it again, and I was hooked, but this time more on the 'serious' side of things. I bought a second hand add-on disc drive, then a printer, and then even more!

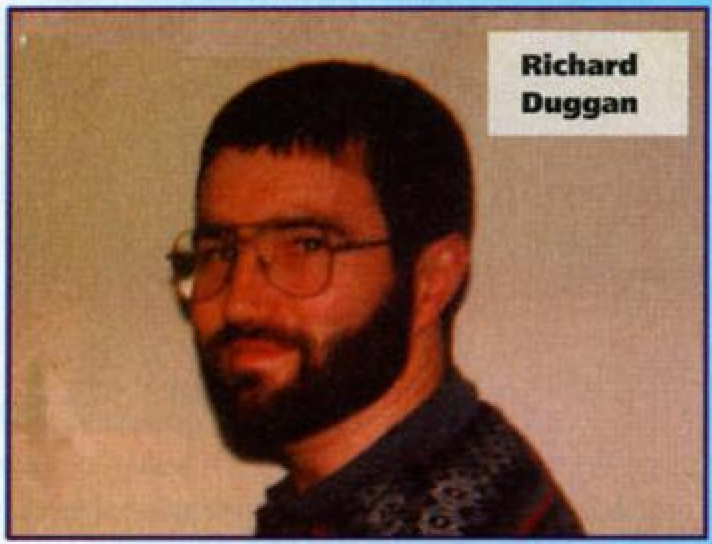
It was around this time that I saw a few adverts for the UAUG in various magazines. I'd seen them before, but hadn't really paid much attention to them. This time I sent off for an info sheet and application form.

To be honest, it looked just a little too good to be true. There were a lot of benefits in being a member, but the membership fee was only £7 (which means that it has only risen by £1 in all these years!!). I decided to take the plunge, joined and never looked back.

I was a 'normal' member for around a year, content to sit back and enjoy what the Group had to offer. Then the position of Advertising & Publicity Officer became vacant, and I applied for the job. It seemed a natural extension to my hobby, and also the ideal way to put something back into the Group.

I enjoyed this post for quite a few months, and when the editorship of CPC USER (the UAUG's magazine) came up I applied for that as well.

I've been the editor of the magazine for nearly two years now, and can truthfully say that although it has been hard work, it has also been a lot of fun to do.


Richard Duggan

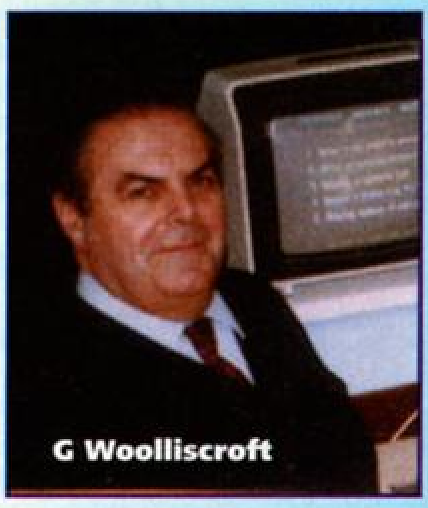
From the PD library side of things, we spoke to Richard Duggan, the man behind the cassette public domain section of the group:

I had always been interested in computers and when the family had a small win on the pools in 1987 I bought my Amstrad 464. Gradually I've been able to upgrade it and now 6 years on I've get a 6128 capacity machine which has a switch so I can run it as a 464 also. I was fortunate enough to find an expert to do this for me. I now have two Rombo boxes with seven ROMs my favourite being Protext. I also have a DD1, FD1 and 3 1/2 inch disc drives, some other favourite pieces are Video Master and a Multiface +2.

For over three years now I have been a member of the United Amstrad User Group and when the post of PD Tape Librarian became vacant in October 92 I applied for the job and got it! I feel that it's allowing my hobby to go one step further.

The tape library was well established and organised by my predecessor Gordon Woolliscroft, who is now our Membership Secretary.

Since taking over I have been in contact with various other PD libraries both in this country and abroad and have been fortunate to obtain quite a large amount of extra PD for our library. Bernard Egerton, our new Technical Editor, also donated numerous PD from his own library 'Egerton PD' tape only. He has also adapted a lot of disc PD to tape so now our library is overflowing!


G Woolliscroft

As tape loading can be a long procedure, I now offer tape speed loading to all members, this appears to be quite popular.

Finally, we spoke to the current membership secretary, Gordon Woolliscroft, who, though not regularly contributing any written work to CPC User, deals with any membership problems.

About 2 years ago after an appeal by our chairman I took over the job of membership secretary, a post which I still hold, dealing with all aspects of membership as well as other queries which seem to come my way. From time to time I do contribute articles and small items to CPC User.

Membership

So, in summary, we have a nicely rounded organization, run by people who are dedicated to both their machines and the members of the group. So should you join?

Well, membership is inexpensive to say the least. Rates start at £8.00 for one year's UK internal subscription, which will entitle you to the bi-monthly magazine, free access to the PD library, the commercial discounts, etc.

All in all, we were very impressed with the UAUG. The service they offer would be invaluable to any CPC user, and though the magazine is geared slightly more toward the serious side of CPCing, games players should find enough in the organization to warrant a measly eight quid for membership. So if you're tired of just reading **AA**, why not take out a subscription to the UAUG as well? Quite frankly, with independent support as thorough and as well organized as this, the CPC looks to have a very strong future in the hands of the users. The UAUG definitely receives the **AA** stamp of approval. ●

Prize Draw

The UAUG have just announced that any new members that join between now and the end of June '93 are automatically entered into a prize draw, in which they could win various assorted goodies, such as software, further subscriptions, even more discount vouchers, and even a years subscription to **AA**! So there has never been a better time to join!

Contact

Gordon Woolliscroft
2 Wrenbeck Drive
Otley
W. Yorks
LS21 2BR
☎ 0943 463718

Back Issues

Sold out! Issues 1-65 ● Still available! Issues 66, 75-84



Issue 85; A look at music-making on the Amstrad, a WIMP interface and a *PowerPage* tutorial. On t'tape, two full games – *On The Run* and *Link*.



Issue 86; Feature on Alternative's kid's TV licences plus review of the *Picasso* art package. On the tape – *Glider Rider* (full game), MIDI demo and three utilities.



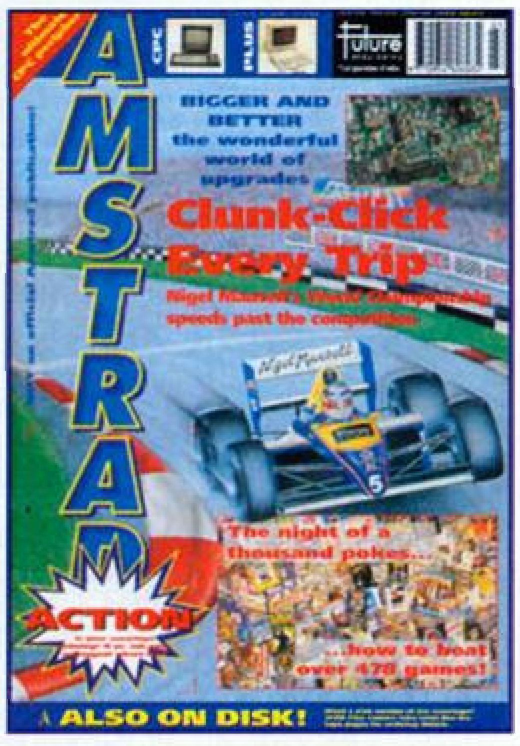
Issue 87; Inside – the complete history of Dizzy and review of the Amstrad NC100 notepad. And! *Football Manager 3* reviewed. Full game of *Nexor* on the tape.



Issue 88; Two complete games on the tape – *Tankbusters* and *Penguins*. Inside, *Videomaster*, *Robin Hood: Legend Quest* and *Crystal Kingdom Dizzy* reviewed.



Issue 89; Inside – Buyers' Guide to disk drives, a look at CPC-stretching demos and *Crazy Cars 3* reviewed. Plus! *Wriggler* and three great utilities on the covertape.



Issue 90; The world's hugest collection of Multiface pokes (more than 478 of them). On the tape: *Steve Davis Snooker* (full game) and *LARA* (m/code utility).



Issue 91; All the dirt on who's doing what in the CPC world.HackIt black box of tricks reviewed. On the tape: *Tasword* (word processor) and *Colossus Chess 4*.



Issue 92; Just how do those floppy disc things work? Plus a review of the first 3.5 inch A: drive. On the tape: *BooTracker* (music utility), *SYNTAX* and *Balloon Buster*.

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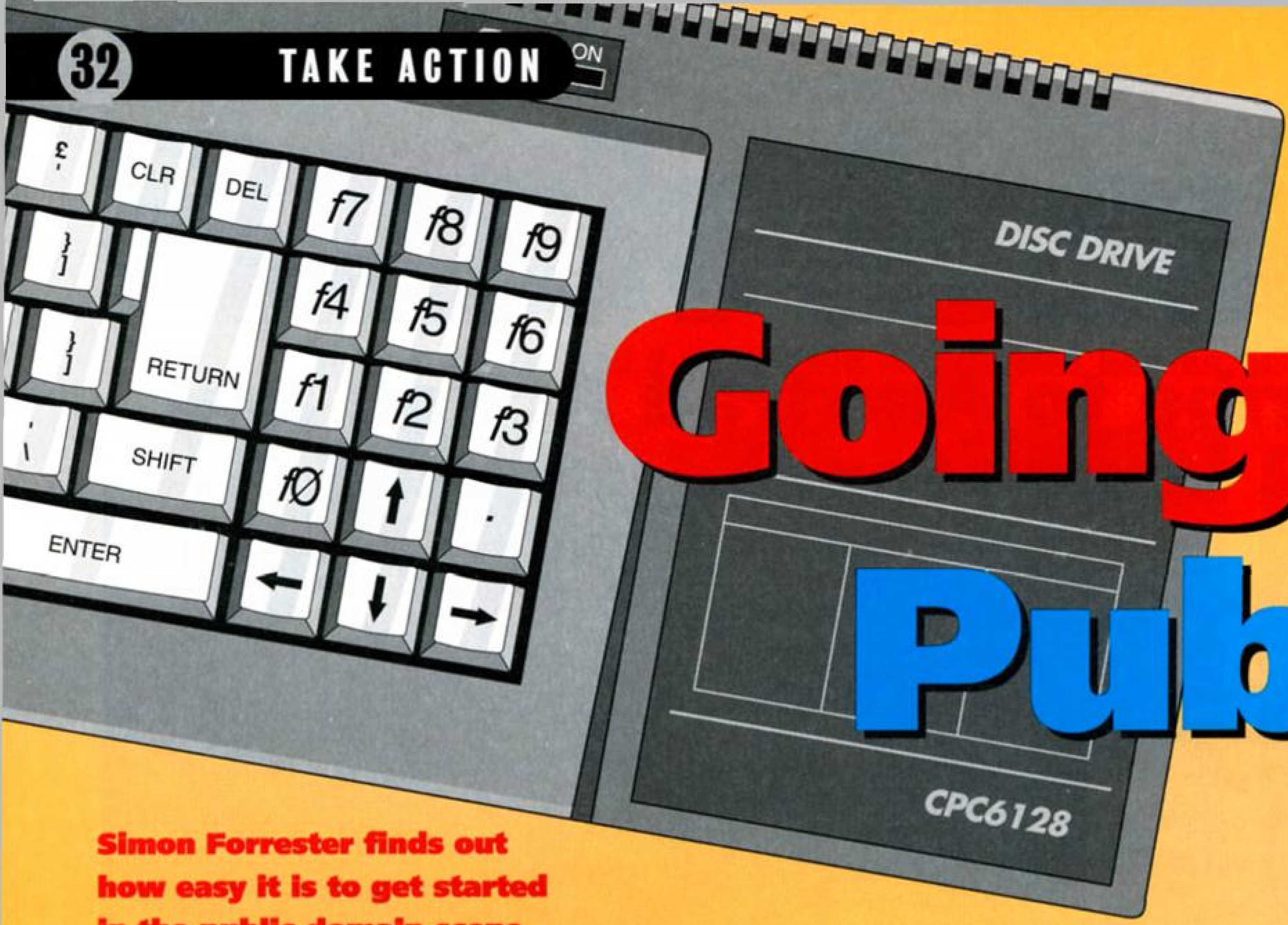
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Going Public

Simon Forrester finds out how easy it is to get started in the public domain scene.

Last month we told you that there are three main reasons why you should give your work to the public domain circuit.

- Your software isn't really up to the standard of full commercial sale.
- You don't really want to enter into the hassle of selling it yourself, and you couldn't find an interested software house.
- You're one of those people who believes in good quality software for the general CPCing masses, at very low prices.

Due to the death threats on behalf of most of the PD fanatics who violently disagreed with the first two points, we're going to assume for now that all PD software is high quality work submitted due to the milk of human kindness.

All this is totally irrelevant, though, if you don't have a library to give software to. So what can you do? Why not start your own...

Why not indeed?

As many seasoned library owners will tell you, there are two ways your average PD library can go. If the library is run by a reasonable programmer with contacts on the scene, it will have a few of the classic PD titles, and a large amount of original, unseen, (and maybe imported) titles. These original libraries become successful very quickly, and soon accumulate their own following, and a good reputation.

Then, of course, there are those libraries that are started by people who, enthusiastic though they may be, have no original titles to introduce. This situation is dangerous. If you stock your library entirely with titles from other libraries, you will have no major attraction, unless you do something very special with the price (see 'No Charge?'). So if you do plan to start up a PD library, make sure it has something unique to stop it sliding into obscurity.

What do I do?

Good question. The first step is to devise some sort of rough system that your library will run with. There are several decisions you'll have to make to decide the style of your library. First, are you going to copy discs and/or tapes? Most PD libraries worth their salt work with disc software, but do you have the time to copy tape software? Copying a discs' worth of software onto tape would probably take half an hour, whereas duplicating a disc will take two minutes or so.

But how much are you going to charge? Take a look at 'No Charge?' for full details on how to charge people for free software. *(No, I don't understand that either. – Ed)*

And what software are you going to stock? There are some libraries who'll stock anything and everything, but there are also many libraries that deal within a specific area, such as adventure games, business software, arcade games, demos, etc. It might be wise for you to start off in a previously unexplored category until you make a name for yourself, and then expand into other areas as you see fit. Also, as a specialized library, you'll suffer very little competition, and you should be successful very early on.

Of course, it's no good having a library if no-one's even heard of you, so publicity is vital to get Joe Bloggs PD off the ground. There are several places you can do this, such as CPC User (the UAUG magazine), WACCI, and, of course, Amstrad Action. Now, I can't speak for the other organizations, but as far as ***AA*** goes, there are three ways to get publicity:

- Take out a Small Ad – being free, there's no reason why you shouldn't cut out that little coupon and get your free plug. The advantage here, of course, is that you get to word the advert to your best advantage.
- Inform the Amscene news desk – of course, you can't word the piece, and you do fall prey to the cutting sarcastic wit of whoever deals with the item, but a few more people read Amscene than read Small Ads.
- Send it along to Tim Blackbond at Public Image – bear in mind that it's probably best to appear in Public Image after you've got a reasonable collection of titles together.

And what's next?

Well, assuming you've got your software collection (by either writing it, getting friends to write it, or collecting it from other libraries), you need to compile a catalogue (your list of titles, along with a brief description of what each one does). This is done in one of two ways. First, you could word process your list and photocopy it, allowing you to present it easily, or you could write a disc catalogue, which is roughly the same thing except on a computer screen (allowing you

Almost PD

When is PD not PD? When it's 'Almost PD'. What's 'Almost PD'? Simple. It all started with rogue libraries starting up and simply stocking software from other libraries, but charging ludicrous prices, making a profit from what was entirely other people's work. The programmers and established library owners countered this with a rather drastic measure. 'Almost PD' is software that, by demand of the author through copyright entitlements, can only be stocked in libraries of the authors choice.

Whether you approve of this or not (I rather think I don't), you have to see this from the programmer's angle. Why should someone spend time writing high quality software, and then donate it to the public domain, just to see someone else make ludicrous amounts of money out of their hard work?

No Charge?

There has always been debate on the subject of money for PD software, but the way we (and most library owners) see it is like this:

Running a PD library takes a lot of time and effort. Duplicating the software and compiling the collections is a lengthy, time-consuming process, and so it's only fair that users of the library are expected to pay a nominal fee to cover the efforts of the library owner.

This fee should not, however, be all that large. If you're considering charging anything over one pound, don't. Look around at established libraries, and see what they're asking for, and you should get a rough idea of what to charge.

If your collection is going to consist entirely of other people's titles though, you'll need to charge a great deal less than the libraries currently stocking the software, or you will, in effect, just be ripping the customers off.

Copy Cat

Oh dreary me. It's that age old subject that I have to put in the feature just in case someone doesn't know yet.

Copyright

You automatically own the copyright to anything you write. If you wish to donate something to public domain, it must be your own work. The only person who can declare something public domain is the copyright owner. Simple as that.

When a title is in the public domain, a certain degree of protection still follows it. Although the program can be freely copied, it can't be altered. Any attempt to alter it is an infringement of copyright. Nor can it be dissected. You can't use a routine from a PD program in your own software without permission from the author. Nuff said.

to show off) but beware – a poorly written disc catalogue can make punters drop your library quicker than the elephant man on a first date.

So then comes the terrifying bit – collecting orders and filling them. But what's so awful about that? Think about it. 27,000 people hear about your innovative library with new software. A large portion of those decide they'd like a slice of free software pie. The faithful old postie keels over under the weight of the mailbag coming to your door, and you find yourself knee-deep in orders for various titles.

Ideally, Joe Public provides the disc he wants the software copied onto and a stamped, self addressed envelope, so that all you have to do is copy the appropriate software onto his disc, sling it back into the envelope, and stroll down to the post office. But this is not a perfect world. Little Johnny didn't include a disc, did he? Or maybe he forgot the SSAE? What can you do? What ever you do, it'll take a long time. Or it'll cost money. *(I think you've just hit the down side. – Ed)* There's no easy solution to this, and you'll just have to muddle through the situation with tact, diplomacy, and a lot of patient phone calls.

Rapid growth

So you've got your library whizzing beautifully along. What now? Well, you can't stock the same titles forever. Sooner or later, you'll need to expand your collection. The easiest way to do this is to make it known in your publicity run that you're willing to accept contributions from the general public, and in return you'll give them, say, a free disc of your software, or something along those lines.

Many libraries find that they expand from the very start, and have to make no special effort to encourage contributions. There's no shame in having to put out a plea for titles, though – it's all publicity, and it allows you to be a little more selective in what's sent your way.

Why bother?

If you're having second thoughts about whether to do this PD thang, then good. It's not something you should enter into lightly – if you start a library, take orders, and fold, all those little Billy's and Johnny's won't be too happy with you not returning their discs or their money, and quite rightly so. You should ask yourself two questions before diving head first into this thing:

- Is it worth my time? Well, financially, running a library is never going to be all that rewarding. But you *will* benefit in other ways. For one thing, you'll develop a large network of contacts and CPCing friends through your efforts – it would be quite hard not to.
- Will I be adding anything new to the PD scene? There are too many libraries out there that are just stocking a rough assortment of everybody else's stuff under their own name. Why? No-one's rightly sure, but it's obvious that there's not much point to the exercise.

Grow your own

All in all, running a PD library can be fun. It's probably the easiest way to get involved with the CPC scene, so give it some serious thought. The future of the CPC lies, in a way, at a home grown level, and that relies on enough people getting off their backsides and giving things like this serious consideration, and perhaps even a try. Come on, what have you got to lose? ●



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Public Image

Here comes that Tim Blackbond bloke again to tell you what's hot and what's not in the twilight world of the public domain.

The public domain 'industry' is now even more booming than ever before. There are several new top-notch games (too many to review in this space, although check out the *Puzznix* review, clearly the best of the bunch).

There have also been rumours that the game *Axys* reviewed a few issues ago is not public domain – we'll keep you informed.

Mailbag

The number of letters increases with every passing month – it's good to see that so many people are interested in the PD scene.

If you have any questions, opinions, rants, or just want a bit of a PD-related chat, then this is the column to write to.

Just keep scrawling your thoughts onto letters and postcards and send them to:

PUBLIC IMAGE
Amstrad Action
30 Monmouth Street
Bath, BA1 2BW.

I thank you...

3.5" PUBLIC DOMAIN

In the Ask Alex column in a recent *(Recent???? – Ed)* issue of Amstrad Action, Alex said that PD libraries can copy thier software onto 3.5" disks. Although she said this, she didn't give any examples of libraries that do. Could you please give me some?
Thank you!
Duane Saunders
Essex

You'll find that most libraries offer software on the larger capacity of the 3.5" disk, the only difference between them is the format of the actual disk. Domain PD gives software on ROMDOS format while Presto PD offers a service for users of MS-800.

Ask around the libraries to get the one that suits your needs.

More PowerPage probs

Can you tell me how to convert pictures drawn with *GPaint* into clip art for use with *Stop Press* or *PowerPage*? There are several PD utilities to view clip art, but none to convert files to the .CUT format. Maybe, with your help, I can get back to designing pages with more than just the readily available clip art on them...
Chris Hunter
Bradford

It's funny you should ask this, as there is an option in PowerPage *itself to save sections of screens out as .CUT files.*

You simply load the screen saved in GPaint *(by selecting IMPORT SCREEN in the FILE menu), define a block around the area you wish to have as clip art (the size is limited only to that of the screen) and select CUT from the BLOCK menu.*

One more point, when drawing your picture in any art package, be sure not to use the bottom eight pixels – when the screen is loaded, the menu bar will overwrite anything on this line.

Databases and stuff

My brother and I have been satisfied users of an Amstrad CPC 6128 for just over six months now and we have only just discovered the joys of Public Domain (thanks to your column in Amstrad Action and Artificial Intelligence). However, could you tell me if there are any decent database and spreadsheet programs anywhere in the Public Domain? I am soon to do them as part of Information Technology at school, as well as needing a database to store my library of telephone numbers.
Mark Broadfield
Surrey

In the way of databases, there are a choice of two quality programs: Rambase 3 *by John Fairlie and* PowerBase *by Richard Fairhurst, the best of which being* Rambase 3*, because of it's ability to store all records in the second 64K bank of the 128K memory, it allows larger files and also offers the widest range of options.*

As for the Spreadsheet, go for PD Planner *by Paul Dwerryhouse. Again, this is the QE2 in sea of a mediocre 'competitors'. Most libraries (if not all) stock both of these programs, so you should have no trouble finding them.*

Loose Talk

Gullam returns

After the sad death of Presto News, Matt Gullam has spent most of his time trying to organize a disk-fanzine system. After one failure, Matt has managed to twist the arm of our very own Richard Fairhurst into coding a machine code system that will whip the bottoms of the European disk-fanzines, and not before time. British disk-zines have been a great source of amusement for the CPC groups on the continent ever since CPC Domain.

Better Than Life, as it will be called (not to be confused with the Red Dwarf fan club magazine), will feature all the usual articles the population of Britain had come to expect from Presto News plus a lot of new columnists. We are waiting with silent excitement...

Software

This month we have two games imported from 'The Continent' by Matt Gullam and are available on the same disk in Presto PD. Both games aren't exactly oozing with originality, but at least one of them is enjoyable to play...

PUZZNIX

By The Fraggle
Available on: Presto PD (Games 15) and PD FUN (Games 17)

I'm afraid I can't really offer any points for anyone who can guess what this game's based on. Does anyone remember *Puzznic*? For those who do, you would be best advised to save time by skipping straight to the final paragraph...

The game concept is simple (isn't it always with puzzle games?), but difficult to explain. When

Send it in...

If you've read pages 22-23 of this issue, you'll have had a whole wad of information on how to set up your own library. Though I don't want to repeat what's already been said there, I'd just like to give a bit of advice to anyone planning to send PD software in.

- Don't feel afraid to send your work in! I'll quite happily look at any amount of software, good and bad, and review everything on its good points.
- Send software on tape or disc, not paper printout, as I really don't have time to type them all in.
- Send a stamped, self addressed envelope along if you want your disc returned.
- Always state a PD library that your software is definitely available from.
- It's not worth bothering to phone before you send material in – I'm a freelancer and I don't work in the ***AA*** office).
- Demos are getting more than a little tired.
- It's not worth sending in software that everyone has already seen.
- If you're sending a game, try to include details of hidden cheats, solutions, etc, as they'll receive a more in-depth review if we can play them more deeply.
- We'll give coverage to any new library with something to offer, or any library looking for software.
- If you have any news for the column, please feel free to send that along as well.

So don't ever be fooled into thinking the PD scene is a clique thang. If you have any slant toward PD, we want to hear from you. The future of the CPC lies in AA, so it's in your best interests to support it.

the game starts you're presented with a screen of bricks. Not full of bricks, but enough to build a small out-house with. Anyway back to the bricks. Each of them is marked with a different symbol and they can be moved about.

There must be more to it

Yes, there is a bit more to it than that. When two or more identical blocks are placed next to each other, they disappear. In order to complete a level, and progress to the next, every block must be cleared by the same method.

And, to add just a li-i-i-ittle bit more difficulty to the game, the bricks comply with the law of gravity (this shouldn't need to be explained, really – it has something to do with apples), so unsupported blocks will fall until they land on a solid surface, throwing a level that you thought you had sorted out into complete chaos.

That sounds easy...

Let's not bother with any of this clichéd 'sounds easy' crap, because it isn't. If there are three blocks of the same symbol on the screen, they all have to go at once, making it difficult to position them so that you aren't left with one on screen and nothing to match it with. If such a thing does happen, you have to restart the level (or, alternatively, smash your computer in a fit of uncontrollable rage).

Since you only have four chances to retry (and when these have gone, it's right back to square one) and bearing in mind that there's also a strict time limit, I'd fully expect you to have a completely wrecked machine in a matter of mere minutes.

Hurrah for PD

Against the full-price version, *Puzznix* stands up very well (especially if you rest both the disks to form a triangle on a gripping surface...). In fact, it is far, far superior to the one that you would have to pay £15 for.

Not only have you got prettier graphics (what with a range of backgrounds for each level and a snazzy game over sequence, not to mention the *Turrican 2*-like screen-clear method) but there is also a screen designer. If you are smart enough to finish the levels given to you (or not able to get past level one), you can have a go at designing your own devilishly difficult game, all the better to win friends and influence people... *Puzznix* pokes a finger in the eye of *Puzznic*. Smashing PD fun!

91%

PLUMPY

By Mickael Fauquet
Available from Presto PD (Games 15)

Much like *Puzznix*, *Plumpy* is based on another old game, *Bubble Bobble*. In the original game, you had to control one of two dinosaurs trying to kill all the baddies on each screen by trapping them inside a bubble and then bursting it. The original plot and made the game enormously successful, so much so that a sequel and a third part was written, also enjoying commercial success. The PD 'copy' however, has sadly been stripped of all gameplay and what you are left with is an over-easy platform run-around with no real goal.

It's behind you

Whereas the original game had several nasties per level, *Plumpy* has only got two. One chases you from your start point and with one swift U-turn and a jab of the fire button you can get rid of it with no problems. The second paces back and forth along the bottom of the screen, the only puzzle being how you can get to it before it gets to you.

Is that all there is to it?

That is, indeed, all there is to it, after a few games the concept will become so dull that you have no option but to turn your machine off in a fit of rage. Oh well, *Puzznix* will keep you up at nights...

10%

EVEN MORE LEVELS FOR YOUR MONEY...

The Presto PD version of *Puzznix* comes with the original levels, however, if you manage to get through these PD Fun has specially designed a new set of fiendishly difficult puzzlers...

ROGUES GALLERY

Yes! As promised many 'moons' ago, the Gallery has returned, and this month we have the librarian for one of the only two Irish PD libraries, Derek Hyland. His many talents range from importing several games from the continent and also the amazing ability to purposely spell thousands of words wrongly!

NAME: Derek Hyland
AGE: Sixteen
KNOWN ALIASES: The Invisible Coder and Highlander

SO DEREK, WHY DID YOU START A PD LIBRARY?

Mainly because I get all the latest software, and I knew that my library would be the finest ever to grace Irish (and maybe English shores (I'm very modest). Also, I love getting letters (Yes, I'm one of 'those' people).

AND WHAT ELSE DO YOU GET UP TO WITH YOUR CPC?

I am the co-editor of The Bad Mag from the Bad European News Gang as well as writing for the Irish fanzine, Amstrad Fun.

AND WHAT OF YOUR MUSICAL PREFERENCES?

I like Dance (or Techno/Rave, call it what you will) and I also like Bob Dylan. I would rather die than listen to heavy metal or rock music (Arrrggghhh!).

(ANOTHER PREDICTABLE QUESTION) WHAT ARE YOUR FAVOURITE PUBLIC DOMAIN PROGRAMS?

I have a lot of favourites, but amongst the top of my list at the moment are: *Crazy Snake, Puzznix, Atomic Preview, Turbo Imploder v1.0, Disc 'o' Magic v3.0, Crime v1.3, Crystal Mission, Spots, The Prodatron Megademo.*

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LOTS OF CPC goodies. Hardware, software, books and more. Phone Angela Cook 0903 206739 or write to with SAE **Brympton Cottage, Brunswick Road, Worthing, Sussex BN11 3NQ.**

AMSTRAD CPC for sale, 130+ games, 1 joystick, very good condition, 7 AA magazines with tapes £120 or nearest offer phone **0698 881151.**

CPC 6128 colour monitor, joystick, Multiface II tape and disk software, Protext, tape deck, loads of magazines. £200 ono. Also MP2 modulator £25. May be able to deliver. Phone Derek (evenings) **0352 741421.**

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Wanted

FIGHTER BOMBER on disk will swap for Wild Streets on disk or reasonable price. **Tel 0704 24742.**

FINDERS KEEPERS, Ghosts & Goblins, Indiana Jones and Temple of Doom. Will swap from list. **Tel 0489 578298.**

HELP WANTED. Does anyone know any passcodes for Titus the Fox (original)? Please ring Alan or Michael on **081 778 6534** anytime between 4-10pm Monday to Sunday. Thank you.

URGENTLY REQUIRED Prince of Persia (Amstrad cassette) in good condition, in exchange for BRAND NEW copy of Turrican (cassette) original full price version. Tel **0734 414566** now.

AMSTRAD 464 USERS MANUAL. Photocopy would be most appreciated. Will pay for the copy and postage. Thank you to anyone who can help us. **Tel Hemel Hempstead 242339.**

JACK NICKLAUS GOLF on disk. Contact Mr M Brown **0524 734014** after 6pm or weekends.

US GOLD'S MR DO and Amsoft's Word Hang. Pay reasonable prices. **Sean Tierney, 62 Egton Street, New Cleveland Street, Hull HU8 7HU.**

AMSTRAD ACTION issue 69 with original tape, will pay up to original cover price. Also want Amstrad Computer User magazines Sept 1988, Nov 1988 and Dec 1988, will pay or swap. Phone James on **0256 880557** for more details.

WANTED! All types of 6128 plus games also wanted Light Gun and games. Guaranteed reply. Disk & cartridge. Send list to **Patrick O Shea, Islandboy, Cahirciveen, Co.Kerry, Eire.**

AMSTRAD ACTION issues 1,2,3. I am willing to pay £3 per issue. Also wanted Grand Prix Circuit (disk). Will pay £12 or swap for Outrun Europa or North & South (disks). **Nigel Soal, 12 St Margarets Ave, Sidcup, Kent DA15 7NP.**

ASSISTANCE REQUIRED. Can anyone transfer my word processor document files from 3" to 3.5" disk? Will return a favour or pay for service. It's urgent, please help. **Tel 0533 836453.**

HAS ANYONE got a copy of Fruity Frank and Sorcery for an Amstrad CPC 464 (tape) for sale please? **Tel 081 960 6596.**

DD1 DISK DRIVE plus interface & manual. Jim Stevenson **Tel 0233 635039.**

SOFTWARE WANTED must be your own work. Only good programs accepted. £5 prize for best of the week. Will pay 75p for each program accepted. Send program with SAE to **Ian MacDougall, 1 Dunlop Terrace, CorDock, Castle Douglas, Scotland DG7 3DN.**

DD1 DISK DRIVE ROM BOX for the Amstrad 6128 computer. Tel **0505 73374.**

TARGET RENEGADE on tape for 6128. Help! Contact **Robert, 4b Dorchester Road, Sydling St Nicholas, Dorchester, Dorset DT2 9NU.**

BOULDERDASH 4 wanted on tape, with instructions & box. Swap for money or game. Tel **0369 5950** for list from 5-7pm ask for Kester Park.

RS232 INTERFACE. Will swap Zapp (a Z80 programming package), Total Eclipse, Driller and the Graphic Adventure Creator for the interface.**Tel 0343 835620.**

ALIENS in good condition (disk only 6128), will pay very good price. Phone **0772 865653** after 4pm.

AMSTRAD 6128 users manual in reasonable condition. Also Multiface 2, fair price paid or can swap games etc. Tel **0623 648787** after 6pm.

HELP NEEDED to replace broken DMP2160 print head: part number AM191082. Any help to find second hand or new one much appreciated. Phone Mrs Cairney **0475 568474** (anytime) 13 Station Road, Fairlie.

WANTED: Romantic Robot's, Multiface 2 with full instructions, will pay £20. I'm also interested in GX4000 games with or without instructions. Will pay £10-£15. Phone after 5pm on **081 681 770.**

WANTED MULTIFACE 2 + manual. Will swap for Amstrad 464. Working order with manual, but with no monitor. Phone Jim on **0670 852820.**

PRINCE OF PERSIA on disk. Will pay reasonable price, must be boxed, as new and in VGC. **Tel 0784 248753** weekdays after 4pm and weekends. Ask for Andrew.

DESPERATELY NEEDED the Amazing Spiderman for the Amstrad 464 tape version. Tel Chris **0744 21847.**

'PS HEADINGS PLUS' (a program for headings within Protext) reviewed in issue 79 November 1990 of Amstrad Action. Would be most grateful. Phone Paul **0480 860845.** 6128 manual also needed.

MULTIFACE wanted for Amstrad CPC 6128 at reasonable price if possible. Desperate and eagerly awaiting response. Write to **Denver Hughes, 12 Aughatarra Road, Armagh, County Armagh, N. Ireland BT60 4QG Tel: 0861 548319.**

WANTED Football Manager 2. Will swap for Shadow of the Beast, Paperboy 2, Black Tiger or Purple Saturn Day. **Tel 0729 840554.**

TERMINATOR 2 on disk. Will swap for Hudson Hawk disk. Ring and ask for Ian on **0270 627473.**

HELP! We've lost our instructions for Elite on tape. Can anyone lend us theirs for a week or so? **Cliff and Allie (0727) 823997 (St Albans).**

LIVING IN SOFTWARE Wasteland! Need disk software - send your list to me for sales, reasonable prices considered! Also require early issues of AA in good condition, ie intact covers. **A McGachie, 1 Church Lane, Seaton, Nr Uppingham, Rutland LE15 9HR.**

QUALITAS fonts disk wanted. Please phone **(0604) 401733.**

URGENT DD-1 disk drive and cable for CPC 464. **Phone 0925 267303.**

PICK 'N' PILE and Booly on tape for CPC464, £10 each paid for working original boxed. **Phone Geoff 0509 673154.**

TASSIGN at a bargain price and/or Stop Press DTP program for CPC. Please ring Phil on 0302 363033 between 9.30am and 5.00pm please.

DD1 DISK drive plus interface and manual. Jim Stevenson, Ashford Kent 0233 635039

DOES ANYONE out there have Elite on disk that they would sell to me? Good price paid. **Mr P L Ramsay, 12, Naseby Avenue, Blackley, Manchester M9 2JJ.**

WANTED BADLY How To Be A Complete B****** (tape) swap Hudson Hawk, Target Renegade, Crazy Cars, Hercules, Shadow Warriors, Road Runner, Frankenstein Junior North and South. (all tape). **Phone Wokingham 733645**

URGENTLY WANTED Has anyone out there got a spare copy of CPM+. I will pay for disk and postage and packing. **Richard Hall, 52 Vernon Road, Brampton, Chesterfield, Derbyshire S40 1EP.**

Other

USE YOUR AMSTRAD to help the environment and improve your lifestyle. Free business software. Send disk and postage to **Jim, 5 Leyburn Close, Woodloes Park, Warwick CV34 5XX.**

PLUS 1 wants writers, programs, artwork and letters. all work considered. send your work to Chris Green, 91 Stafford Road, Ruislip Gardens, Ruislip, Middlesex HA4 6PD. Tel **0895 633641.** Send work on tape /disk if possible.

STAR NEWS MAGAZINE fortnightly. Amstrad and Sega reviews, cheats, news and more. Send 15p and SAE to **Jonathan Lewis, 143 Out Westgate, Bury St Edmunds, Suffolk IP33 3NU.**

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AMSTRAD DPM1 printer, also handbook for 464. Offers or part exchange Multiface or 64k RAM or any hardware. Also wanted cover tape 75. Mine was stolen. Les (Norfolk) **0362 637307.**

PLUS 1 Fanzine. Issue 2 now available, packed with the best CPC news, reviews and advice. Issue 1 still available. 75p + SAE to **Chris Green, 91 Stafford Road, Ruislip, Middlesex HA4 6PD.**

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Assembly Line 3

Believe it or not, Simon's finally given some direction to his machine code series. Apparently, we're on the way to writing a Breakout clone. Only time will tell...

The code

Let's dispense with the 'welcome' pleasantries, and dive straight in. Assemble the following code, call it at `&4000`, and then read the blah.

```
org &4000
limit &4fff

ld a,1
ld (xpos),a
ld (ypos),a
inc a
ld (xdis),a
ld (ydis),a

.mainlp
call &bd19
call locate
ld a,&20
call &bb5a

ld a,(ypos)
dec a
ld hl,ydis
add (hl)
ld (ypos),a
cp 25
call z,ballup
cp 1
call z,balldn
ld a,(xpos)
dec a
ld hl,xdis
add (hl)
ld (xpos),a
cp 40
call z,balllf
cp 1
call z,ballrt

call locate
ld a,&2a
call &bb5a

jp mainlp

.xdis
db 0
.ydis
db 0

.ballup
call flash
ld a,0
ld (ydis),a
ret
.balldn
call flash
ld a,2
ld (ydis),a
ret
.balllf
call flash
ld a,0
ld (xdis),a
ret
.ballrt
call flash
ld a,2
ld (xdis),a
ret

.flash
ld bc,&1a1a
call &bc38
call &bd19
ld bc,&0101
jp &bc38

.locate
db &21
.ypos
db 0
.xpos
db 0
call &bb75
ret
```

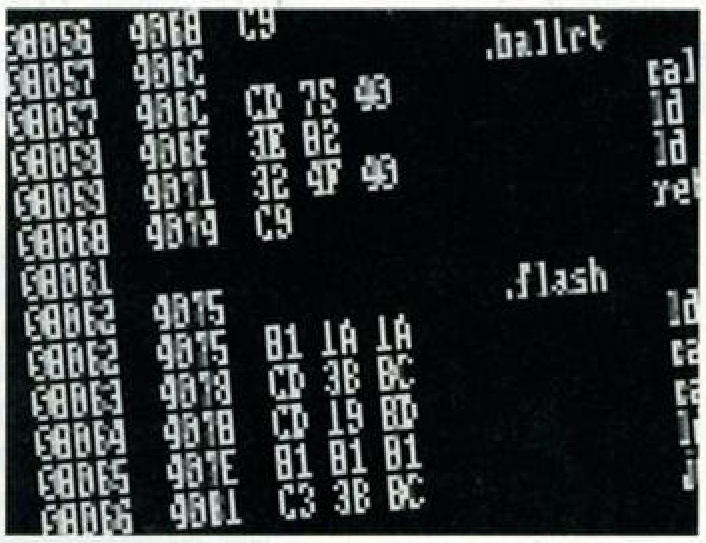
If you assemble the code you should, if all goes well, have a little ball (or the star character) bouncing around your screen, with a fun little border flash whenever it hits the edge of the screen. Now, this may not exactly be *Arkanoid*, but the source code for that would be too long, and leave you completely in the dark. But bear with me, because as the issues go passing by, we'll be turning that simple character into a sprite, adding a bat, and a few bricks! Anyway, the code in detail.

That code in full

`org &4000:limit &4fff`
You should know by now that these are assembly indirections instead of proper assembly instructions, that tell the assembler where to place your code, and where to stop it.

`ld a,1:ld (xpos),a:ld (ypos),a`
First, we need to define the ball's location as 1,1 on the text screen (top left). This is done with a method known as indirect addressing. You'll find a box on that elsewhere on the page.

`inc a:ld (xdis),a:ld (ydis),a`
Using the same indirect addressing method, we



Don't look, it's those hexa-decimal people we met at dinner. Too late, they've seen us.



And this, oh dearly beloved, is what it'll start to look like on your monitor screen.

set the two displacement factors at 2. The reason we've used `inc a` instead of `ld a,2` is that a already contains 1, so simply incrementing it by 1 saves time.

`.mainlp`
So we've arrived at the main part of the program then, with a label for us to loop the program, making the ball move more than one space.

`call &bd19`
You don't need to know too much about what this call does right now, just take it from me that it smoothes everything out, and slows it to a reasonable speed. We'll be covering what are known as 'frame flybacks' at a later date, when we take a look at printing sprites.

`call locate:ld a,&20:call &bb5a`
So we locate the text cursor over the ball, and erase it by printing a space, ready to place the new ball at the new position on the screen.

This is a really clever bit

`ld a,(ypos):dec a:ld hl,ydis:add (hl):ld (ypos),a`
Now we get to the amazing Simon Forrester

Indirect Addressing

Ever got the feeling that things are getting just a little too complicated? Okay, let's look at indirect addressing. We know how we can load individual registers with values, or the contents of other registers. Well, Z80 code also has the option to treat individual memory locations as registers. To access a memory location as a register, the address (or label representing the address) is placed in brackets. For example, to treat the memory address `&8000` as a register, and load it's contents into the accumulator, the line would read:

```
ld a,(&8000)
```

And that's all there is to it. With this method, we can even alter the program within itself (as is done here in the locate routine).

Displacement

And now, we are proud to reveal the Simon Forrester Displacement System™. Actually, that's not altogether true. The idea is very old, and runs as follows:

Say, for example, that we have the x location of the ball. The displacement byte is the byte representing the direction the ball is travelling, and the amount the x location will have to be displaced by. So, to move the ball left, the displacement byte is 0, and for right, it's 2. So if the x location was 23, to move the ball left, simply decrease the value by one, and add the displacement byte, making the x value 22. To move it right, we decrease the value by one and add the displacement byte, making the x value 24.

It would have been easier to have a displacement byte as either 1 or -1, but it would make things quite difficult to understand from a learning point of view, and would require a whole page of explanation of how 8-bit numbers are structured.

Displacement System™, that you can find an explanation of elsewhere in this article. The actual nitty gritty of this code is simple though. First, we get the y position into the accumulator. Next, we decrement it by one. Next we add the displacement byte to it, by pointing to the address of the byte with `hl`, and using the indirect addressing. Finally, we re-store the byte.

Can we have our ball back?

```
cp 25:call z,ballup:cp 1:call z,balldn
```

Of course, to stop the ball flying clean off the screen (and probably crashing the program in the process), we check the accumulator (which still holds the y position) to see if the ball is at either the top or bottom edge of the screen, and call the appropriate redirection routine if it is.

```
ld a,(xpos):dec a:ld hl,xdis:add (hl):ld
(xpos),a
cp 40:call z,balllf:cp 1:call z,ballrt
```

These two lines do exactly the same as the last two, only they affect the x position instead.

```
call locate:ld a,&2a:call &bb5a
```

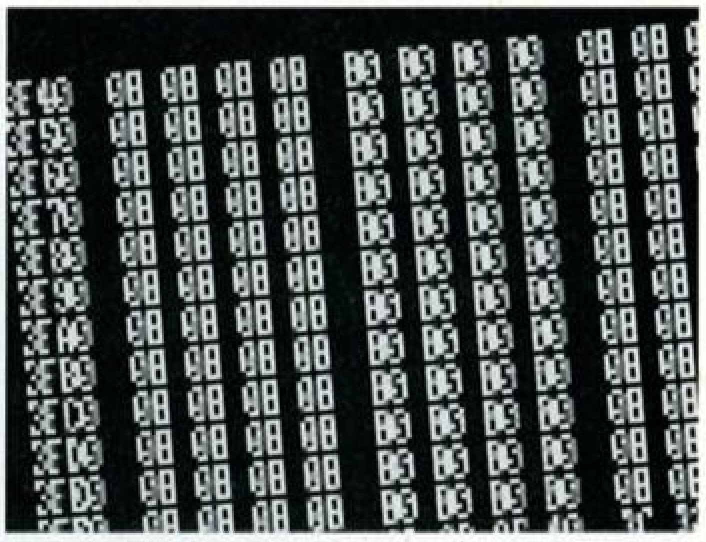
So now we've adjusted the location bytes accordingly, it's time to display the new ball on the screen!

```
jp mainlp
```

And finally, jump back to the point where we're going to erase it again!

```
.xdis:db 0:.ydis:db 0
```

It's at this point that we have the two displacement bytes stored and labelled, so they can be addressed very easily elsewhere in the program.



Pretend to be busy – maybe they'll not bother us. Oh no, they're coming over...

```
.ballup:call flash:ld a,0:ld (ydis),a:ret
.balldn:call flash:ld a,2:ld (ydis),a:ret
.balllf:call flash:ld a,0:ld (xdis),a:ret
.ballrt:call flash:ld a,2:ld (xdis),a:ret
```

These are the redirection routines, that alter the displacement bytes when called earlier on. They also call the routine for the border flash.

Another clever bit...

```
.flash:ld bc,&1a1a:call &bc38:call &bd19:ld
bc,&0101:jp &bc38
```

And here it is – the amazing Border Flash™. The registers `b` and `c` contain the colours the border will flash (but we're turning it to white (&1a or 26), so both registers are the same), and the firmware routine at `&bc38` does the biz for us.

```
.locate:db &21:.ypos:db 0:.xpos:db 0:call
&bb75:ret
```

Oo-er. I'm dreading explaining this. Earlier on, I made reference to a locate routine. Here it is. The call to `&bb75` requires the x and y locations to be in the `h` and `l` registers.

Thinks – why not load them both together with a `ld hl` command? So what's the code for `ld hl`? Ah, `&21`. Right... Place that into memory, followed by the values to go into the register (two bytes, in this case the location bytes) low byte first. If you don't understand this right now, don't worry – you'll look back after a few more episodes and realise just how easy it is.

And by the time you've got your head round all that, it'll be next month and there'll be more. ●

Flow Of Operation

I really hate to drag you down like this, but if we don't give this whole thing a slightly more theoretical slant, we'll be in spaghetti street by the time we've finished another few episodes, and only one of us will know where the hell they are (and it won't be me, I can tell you). So bingo – it's that dreaded flow of operation part I always seem so keen on.

An introduction to pseudo-code – that's what we need. Imagine what it would be like if instead of having to type in all that tedious wibble to get the bouncing ball, we could just talk in plain English. Well, that's what pseudo-code is all about. Let's take a look at our listing the easy way:

- Set up variables
- Erase ball
- Move ball on y axis
- If ball=top then direct down and flash
- If ball=bottom then direct up and flash
- Move ball on x axis
- If ball=left then direct right and flash
- If ball=right then direct left and flash
- Reprint ball
- Loop to 'Erase ball'

And there we have it – the pseudo code version of that incredibly long and complicated program. But what does it all mean? Well... When we look at the above 'program', we can see it as a very straight forward set of instructions. Because machine code is a low level language (one not very much like real English and where one command only does one thing, as opposed to a BASIC command which is much more like English and does the equivalent of about fifty machine code instructions), we have to call subroutines for many of the above lines. So instead of that blissfully simple 'direct down' stuff, we have the subroutine `balldn`. And when we say 'and flash', we really mean that at the beginning of the redirection routine, jump to the border flash routine called, surprisingly enough, `flash`. So what used to a very simple straight flow of program, has now turned into not so much a tree structure, as a small copse.

It's important that you understand the theory behind operation flow – though most coders wouldn't know it by that name, they'll surely agree that it is probably the most important part of understanding machine code. A warning is due here, and that's that we won't be spending any more time on operation flow – take a look through a few BASIC programs for the various branches and subroutines, and get used to the way things flow. Tara!

Till We Meet Again...

Next month we'll be adding a rather groovy bat into the fray, and possibly a few bricks... After that, we'll add a scoring system, and some sound. Wow, huh?

Please bear in mind that this is not supposed to be the hottest *Breakout*-clone since sliced bread, *(Great use of metaphor, Si. – Ed)* merely a vehicle for some machine code techniques. To salvage what's left of my reputation, I'll write a cool *Breakout*-clone for the covertape at some point, but right now, there's no point. Anyway, seeya!

Balrog

Oh no, it's the last ever Balrog! The adventure column will remain, though, but without that nice Balrog chappie.

All good things must come to an end and it is with a tear in the eye that the Balg, after over three years of adventure columns in AA, must wave a clawed goodbye... But never fear because the Balg plans to leave with a bang and not a whimper – leaving behind him the most authoritative breakdown of all clues, reviews and humourous responses ever to grace his column plus all the usual features which made the Balg the greatest.

NEWS

Red Herring

The Balg must once again give a plug to one of the best ever adventure fanzines he's ever seen. Red Herring is superbly presented and jam packed with reviews and interesting articles. Although Red Herring covers all machines, there's enough CPC stuff to make it worth a buy. For more details talk to Marion Taylor on (071) 256 8427 or write to her at 504 Ben Jonson House, Barbican, London EC2Y 8NH.

End of an era

It's sad that the Balrog column is coming to an end after all this time, but fear not. There'll be an all-new adventure column to replace it.

So for just one month you'll be without your regular dose of adventuring, but it'll be back with a vengeance in AA95.

Adventure Workshop grows!

More news from that hard working chappie, Phil Reynolds, at the Adventure Workshop. Phil has added loads more games to his current stock including *Starship Quest* (the three part sequel to *Magnetic Moon*) at £6 disc only, *The Staff of Power* (£4 disc only), *The Pendant Of Logryn* (£4 CP/M+ only), *The Case Of The Beheaded Smuggler* (£5 disc only), *The Axe Of Kolt* (£6 CP/M+ only), *Venom* (£2 tape, £4 disc), *Shard Of*

A massive great chart

As a parting gesture, here's a list of every adventure ever mentioned by the Balrog.

Name	Review	Just for Laughs	Cluepot
Acheton			55 56
ADLAN	60		
Adventure Quest			2 15 54 73 74
Adult II	65		
Aftershock			16 17 57
Al-Strad	71		14 74 75
Andy Capp			59
Angelicus Saga			77
Apache Gold			55 56 61 79
Arkham Manor			66 67 72 86
Arnold goes to somewhere else			74
Arnold Blackwood Games		70	
Astral Plain			75 76
Atalan			74
Avon	51		51 63
Axe of Kolt	86		
Ballyhoo		54	21 61 72
Bards Tale			37 38 53 57-59 61 70-74
Base		66	62-64 66 74 77 78
Beginners Guide to Adventure	65		
Beer hunter			9 12
Bew bews			72
Big Sleaze		50 56-58 60 66 89	26 40 49 50 62 67-69 79 80
Black Fountain			84 87 91
Bloodwych	58		73 75 78
Blue Raider	65		
Boggit		53 70	12 13 18 27 54 58 63 69 79
Book of the Dead			77 78
Bored of the Rings		60	16 25 60 65 67
Bugsy			57
Can I Cheat Death?	65		
Case of the Mixed-Up Shymer			80 90
Castle of the Skull Lord			14 62
Castle Blackstar			14
Castle Master	56		86 87
Castle Warlock			76
Chaos Maze	80		
City for Ransom	63		
Classic Adventure	65		3 56 61 63 88
Colossal Adventure			1 2 9 53 75
Colour of Magic			51 58 59 86
Computer Adventures	62		
Corruption		66 89	43 51 55 56 58 60 62 65 68 69 80 90
Crypt			86
Crystal Theft	82		51 76
Cursed be the City			76
Cutthroats			53 58 60 64
Danger! Adventurer at Work			77
Danger! Adventurer at Work 2	89		
Deadenders			92
Dodgy Geezers			64
Doomlords	65		
Double Agent	88		
Dracula			58 59 61 62 78 82
Dragons of Flame			88
Dun Darach			56 81
Dungeon Adventure			9 11 15 20 60 64 74
Dungeons Amethysts etc			25 66 77
Emerald Isle		51	2 6 9 17
Enchanter		50 51	
Erik the Viking			2 4 6 7 9 20 90
Escape from Koshima			65 84
Escape from Planet of Doom			75
Espionage Island			25
Eve of Shadows	71		
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Inovar (£2 tape only), *Kobyashi Naru* (£2 tape, £4 disc) and *Dead End* (£3 tape, £5 disc). For more details and a free catalogue contact Phil at 36 Grasmere Road, Royton, Oldham OL2 6SR, Lancashire. Tel: 061 652 7565.

Letters

An amazed amster?

I've just read the results of your readership survey on adventuring and am currently laying on the floor in a state of shock. May I take a few lines of your hallowed pages to thank all your wonderful readers that took part in the survey and, of course, special thanks to those who voted for *Helvera – Mistress of the Park* as not only the best text adventure of 1992 but who also gave it the crowning glory of top adventure of all time.

These are heady heights indeed and are certainly far higher levels of achievement than this humble author every expected to arrive at. So once again, many thanks to you and to all the readers who took part.

Finally, there may just be a few readers who are wondering where they can obtain Helvera as the distributor was missing from the result announcement. It is, of course, available from WoW software (Joan Pancottz HPilg, 78 Radipole Lane, Weymouth, Dorset DT4 9RS. Tel: (0305) 784155 Any day – 1pm to 10pm).

Yours sincerely and totally gob-smacked,

Bob Adams
Welwyn Garden City

You may be gob-smacked Bob but you certainly deserved it – in the Balg's not so humble opinion Helvera *was the best text adventure of '92. Congratulations again.*

PAW problems

All recognise you as the Worlds Premier adventurer. *(Stop creeping. – Balg!)* So I turn to you for help. Where can I get *PAW* on disc... you are my last hope.

The enforcer
Newcastle

Well you could try the original distributors, Gilsoft, on (0446) 732765 but if they don't have it in stock any more you're best bet is to place a free ad in AA.

Role playing games request

Dear Almighty Balrog,

I was going about my usual business of killing a few orcs and maybe the odd hydra at the Fire Mountains, in the Glyphx part of Hythox when I decided to be a bard. I went to the school of Bards and did very well until my final examination – I was given eight moons to find a hobbit sanctuary. (Eating Tooken strange of Littlebed as I hated his letters almost as much as his acquaintances. It was nothing to do with the nine bags of gold and sixty moon pieces he owed me) were an mighty sage informed me that the Balrog lived at the 50th dungeon level of moria *(Well I don't just frequent the 50th – I can be found on the lower levels as well. – Balg)*. So I would be grateful if you could tell me of a

Clue sniffing with the Balrog

Cluepot (over the page) comes to you thanks to the following awesome adventurer dudes: Patrick Madders (Newcastle U. Tyne), The Enforcer (Newcastle), Glen & John McFarlane (Troon), Robert Smith (Gwynedd), Philip Carver (Essex) and last but by no means least, Andrew Doyle (Solihull). Thanks also to all contributors who over the years have kept the Balg's cluepot brimming for hints and tips for the needy adventurer.

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(Thanks Balg, old chum, we've enjoyed having you with us. – The Team)

Lords & Ladies of Adventure

Iron Lord ● Seabase Delta & Spellbound.
William Huddleston, 1 Millwell Park, Innerleithen, Borders, Scotland EH44 6JF.

Knight Tyme & Mega Bucks.
Andy Riddings, 10 Berkshire Street, Chaddesden, Derby DE2 6GQ.

Forest at World's End ● Hitchhiker's Guide ● Jewels of Babylon ● Leather Goddesses & Message from Andromeda.
Iain McCarthy, The Old School, Church Lane, Brantham, Manningtree, Essex CO11 1QA.

Castle Blackstar ● Heavy on the Magic ● Indus Valley ● Never Ending Story & Orb Quest.
Andy Clayton, 29 Portman Road, Scunthorpe, South Humberside, DN15 8PD. Tel: (0724) 872135 between 6pm and midnight.

Adult II ● Al-Strad ● Antidote ● Atalan ● Bestiary ● Big Top ● Black Fountain ● Black Knight ● Boggit ● Bored of the Rings ● Boredom ● Can I Cheat Death? ● Case of the Mixed-Up Shymer ● Castle Adventure ● Cave Capers ● Caves of the Bew Bews ● Conch ● Crispin Crunchy ● Dick 'ed ● Dungeon ● DAA ● DAAW! ● Detective ● Doomlords ● Escape from Planet of Doom ● Escape from Prison Planet ● Firestone ● Flook ● Forest at World's End ● Gerbil riot of '67 ● Ghost House ● Grue Knapped ● Heroes of Karn ● Helvira ● Hobbit ● Hounds of Hell ● House out of town ● Imagination ● Jason and the Argonauts ● Jewels of Babylon ● Labarinth ● Lighthouse Mystery ● Lost Scroll ● Magician's Apprentice ● Message from Andromeda ● Nite Time ● Orb Quest (Pt. 1) ● Orifice from outer space ● Panic beneath the sea (pt. 1) ● Power curse (Pt. 1) ● Prison Blues ● Quest ● Quest for the Golden Egg-cup ● Robocide ● Roog ● Rouge Midget ● Scary Tales ● Seabase Delta ● Souls of Darkon ● Spaced Out ● Spacy ● Star Wreck ● Subsunk ● Tealand ● Theseus (pt. 1) ● Thief's Tale ● Tizpan ● TRD ● Use your loaf ● Videoworld ● Welladay ● Yarkon Blues & Yawn + Help for Quill programmers.
Simon Avery, 71 Fore St, Chudleigh, Newton Abbot, South Devon TQ13 OHT.

Hitchhiker's Guide ● Leather Goddesses ● Lurking Horror & Moonmist.
Ken Dean, 63 Elmhurst Avenue, Oulton Broad, Lowestoft, Suffolk NR32 3AR.

hobbit sanctuary and recommend any good tape role playing games apart from *Bards Tale* and *Hero Quest*.
Michael Orcslayer
Alexandria

Michael, I can recommend the following games worthy of your good taste: Rings of Darkness, Bloodwych *and* Lords of Chaos. *Unfortunately you're going to have difficulty finding them – your best bet is to place a small ad in AA. As to Hobbit Sanctuary's – I've known of a couple in my time but strangely, within two weeks of their location reaching the Balg's fair ear, some evil rampaging monster attacked and ate all the hobbits! Who could be responsible for this outrageous behaviour is beyond a naive and young Balg (toothy grin).* (You're all completely mad, aren't you? – Ed)

Help!

How do you get the second piece of brain in ***Monty Python's Flying Circus***?
Mr J. Jones, 41 Westmorland Avenue, Newbiggin-by-the-sea, Northumberland, NE64 6RN.

How do I get the gloves from Joana in the ***Famous 5***?
Ian Renard, 42 Bodmin Avenue, Macclesfield, Cheshire SK10 3JU. Tel: (0625) 429109

WANTED: ***Leather Goddesses of Phobos.***
Chris Scott, 38 Brocks Hill Drive, Oadby, Leicester LE2 5RD.

How do you get the fishing net in ***Spell Bound Dizzy***?
Terri Richardson, 8 Exeter Close, North Seaton, Ashington, Northumberland NE63 9RZ.

WANTED: Booklet for or disc version of ***Bards Tale***.
Belladonna, 265 Court Road, Mottingham, London SE9 4TQ.

WANTED: General help with multi-part games in ***GAC***.
P. Lindley, 1318B High Road, Whetstone, London N20 9HJ.

WANTED: ***Werewolf Simulator*** and ***Red Moon***.
Chris Parker, 1 Rectory Road, Edgefield, Norfolk NR24 2RJ.

Cluepot

Famous Five

- Keep paper from sandwiches.
- Make friends with George by buying Ginger beer at shop with pocket money.
- Matches? Under the bed in the spare room.
- Let George row you to Kirrin Island.
- Tie rope to tree stump to go down hole.
- Pull boat high up on sand.
- Smash cupboard in cabin on ship and take box.
- In Kirrin cottage, to get food, put Julian in dining room, the rest in the sitting room. Get dick to turn on wireless. Become Julian, go into the kitchen, then larder and take all.
- On Kirrin Island to get sticks, eat cake from larder. Drop crumbs by jackdaw tower. Get sticks. In shelter light paper then sticks.
- Try hitting people for laughs.

Imagination

- Give the weather map to the woman in the tower.
- Divert the dogs with the chips.
- Enter mole after drinking elixir.
- Freeze milk to get yo-yo.
- Play yo-yo to get the key.

Magnetic Moon

- In port lifeboat bat search pilot's couch then the storage compartment. Fit oxygen to helmet the wear helmet.
- To leave the stellar queen... Press button by airlock, enter airlock, press button, press button and then jump.
- You need the flashlight on the moon whilst in the hills.
- By the abandoned freighter don't go aft twice!
- Throw grapnel by freighter until you succeed then climb rope, then enter port.

The Pawn

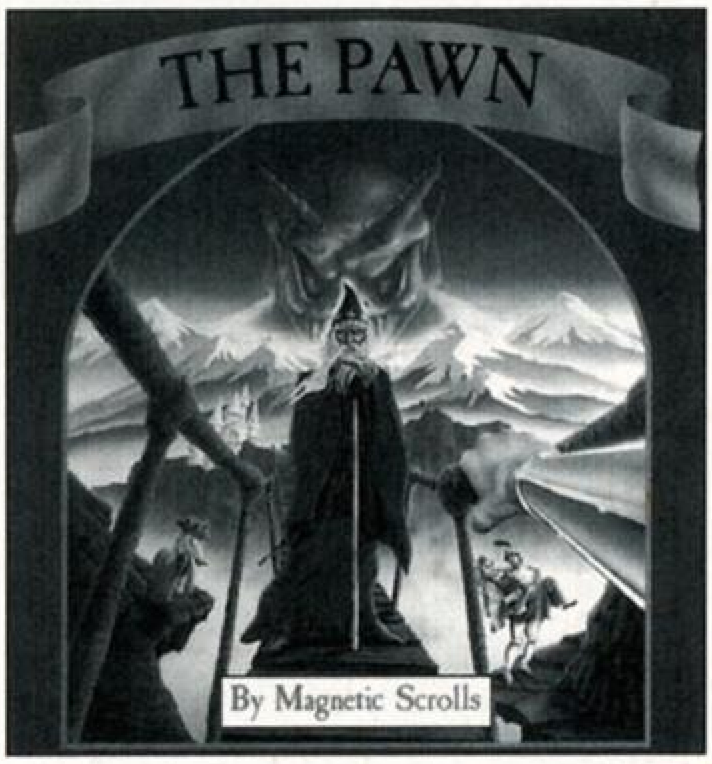
- To get past the large boulder, tie hoe to rake with shirt, lever boulder with hoe and rake.

Quest for the Golden Egg-cup

- Brooks is the password.
- Never swear.
- God will give you a stone tablet if you hang around for a bit.
- Don't leave your golden egg lying around, Thoron will steal it.
- Never drink from Wongo's cauldron.
- Give the ferryman the credit card if he won't take you across the river.
- Examine everything.
- Interrogate and arrest suspects.

Yarkon Blues

- Bend the panel to reveal a shovel.
- 'TELEPORT' to teleport.
- Press button A then button C or else.
- Hold breath before examining the dead body.
- Fire phaser at case in the museum.
- **THE END** (sob)



Power Up

CHARTS right here, right now • GAME REVIEWS pages 44-46 • CHEAT MODE pages 54-57

And in a packed issue this month, we've got the more than wonderful Super Cauldron, and the more than disappointing WrestleMania™ from the World™ Wrestling™ Federation™.



Tim Norris™

Tim learnt a very important management lesson this month. He discovered that the best way to control an unruly staff writer is to swing an aluminium baseball bat around the office until an entire month's worth of work lands quickly on his desk. And if you claim you're just 'warming up for the softball match', no one seems to complain. So now you know the truth behind all this 'friendly team' nonsense. *(And no mistake. – Ed)*



Simon Forrester™

As well as muttering "Oh-ah yeah" a lot, *(Actually, he does do that rather a lot. – Ed)* Simon's just hung around the office occasionally writing something, avoiding the softball bat, listening to raucous music on the office stereo and constantly insisting that he doesn't wear a wig. He also bet his entire year's salary (£3.65) on the advice of *Racing BoxForm*, so he should have been evicted by the time you read ish 94.



Nick Aspell™

Nick's been wandering around with a slightly vacant look in his eyes this month. *(What's new? – Ed)*

A lot of his time has been spent working on a sister magazine, Amiga Format, playing Art Editor for their live show guide. As well as this, he's been drawing a lot for PC Plus. And he still hasn't booked a photographer for our new team photos (we're gonna be in trouble for that).

Please mister, can we have our Art Editor back?

Reviewed this month



SUPER CAULDRON

Page 44



A PREVIEW OF PREHISTORIK II

Page 45



WWF™ WRESTLEMANIA

Page 46

The hit parade

ELSPA PENGUIN CHARTS · COMPILED BY GALLUP

1	Dizzy: Yolkfolk	C/Masters
2	The Simpsons	H/Squad
3	Terminator 2	H/Squad
4	Fun School 2 6-8 years	H/Squad
5	Magicland Dizzy	C/Masters
6	Rick Dangerous 2	Kixx
7	Postman Pat	Alternative
8	Fun School 2 Over 8s	H/Squad
9	Hudson Hawk	H/Squad
10	Mini Office	Alternative

Super Cauldron



Titus ■ 071 700 2119 ■ £15.99

It was bound to happen sooner or later – the strain was bound to get too much for our Simon Forrester. He's written a rhyming review...

Double, double, toil and trouble,
CPCs stick out amongst the rubble,
That's right – the home of this wonderful mag
Was razed to dust by some grisly hag.
After a long and tortured battle,
She flew away with a drawn out cackle,
Having raised the darkest demons of hell,
By loudly reciting the following spell:

You may remember, not long back,
Zap'T'Balls being slightly cack.
Though studded with many a nice effect,
They interfered, so the game was wrecked.
But Elmar's back, effects abound,
Let's hope it gels this time around.
Cauldron 3, yes, more of the same,
So let's get on and review the game.

Now first of all, sorry tape owners,
This game's on disc, but that's a bonus;
'Cos to load the intro and take a peep
Would take forever – you'd fall asleep.
Because foxes talk, and pumpkins fly,
It's very pleasing to the eye,
And unlike Elmar's earlier one,
When you play the game, the effects are gone.

This little witch that moves like Pob,
Comes out of a giant beasties gob,
A little witch with the cutest run,



And here we see the traditional witchy mode of transport – sliding on her bum.

Who can slide down hillsides on her bum,
She can run, and jump, and slide, and crawl,
So if you want a gymnast she's got it all.
Okay, with cartwheels she may be licked,
But give her a chance, I mean – who's perfect?

So the little witch runs up this hill,
Reaches the brow – there's an icy chill
And a pumpkin bouncing up and down,
With a lovely noise when it hits the ground.
The cute little witch tries to kill it,
By throwing rocks and stones and grit.
But it just won't die, it's all for nowt;
Instead this smoke comes pouring out!

So dodge the pumpkin, if you can,
And later on there's a crooked man.
He's spitting fire! Ouch! Stop it!
Kill him quick before you cop it.
Owls and vultures, all must die,
When you find a broom and learn to fly,
With death defyingly high dog fights
But with rocks, not bullets, in your sights.

But as well as up, our witch goes down,
To a maze of caverns underground,



At last, witches are beginning to get some good press. She actually looks quite sweet.



Owls, on the other hand, have always been seen as charming. Except by mice, of course.

To tackle a whole new world of danger,
But when it comes to skill, she's no stranger
To some crafty moves, and a careful shot,
She really uses what she's got
To jump fires, furry slugs and trees
With a grace that makes it look a breeze.

We're climbing chains, dodging folk,
Throwing rocks to kill the bloke,
Jumping over Venus Fly Traps,
Carefully, with no mishaps,
Cos they're following you, open jawed,
Step too close, you're gonna get floored.
Dodging spikes, platforms lift,
Witchy jumps across the rift.

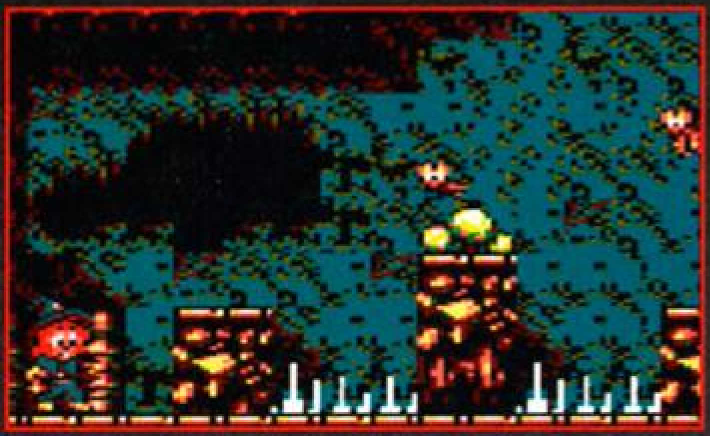
Another level when you fly,
On through the portal in the sky,
And up to fight amongst the clouds,
Where an icy veil of mist enshrouds
The ice balls flying round as well –
Witchy found another spell.
Fire carefully so as not to waste it,
As a few more gruesome thingies taste it.



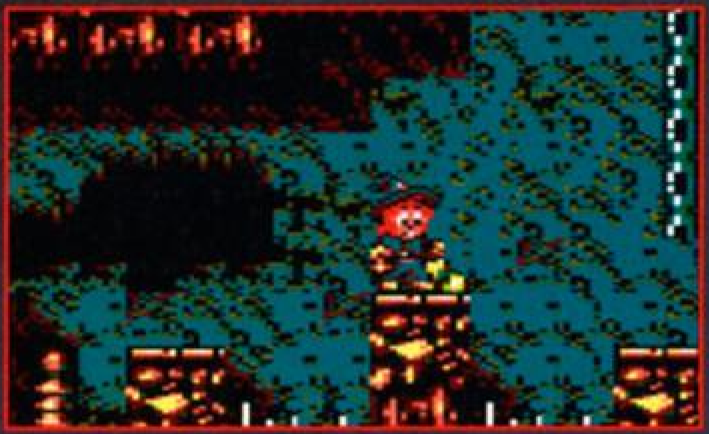
That looks like a very ugly geezer guarding the bridge. I wonder how we'll get past him.



Excellent, but I can't help thinking that being under water isn't all that good for us.



Ah, now, spikes, platforms and baddies. We're back on familiar ground here, and no mistake.



That looks like a very handy chain over there. And those wretched owls have gone at last.

Prehistorik

Now we don't mean to steal *Super Cauldron*'s thunder or anything, but you might also be a bit interested to know that Krieger (the programmer) has also just finished yet another blockbustery type mega-game-ish-type thang, *Prehistorik II*. We've seen the preview, and it looks absolutely fab! We should have a full review for you soon.



Ever seen a 16-bit game? This looks like one.

But the gameplay takes another turn,
With some incantations to slash and burn,
And knock some bad guys to the ground
With a lovely screechy zapping sound.
Lots of charms to collect,
Lots of baddies to leave, wrecked.
The magical side has just begun,
And it all helps to add to the fun.

Of course, like all, it's got its faults,
(It's here that all the raving halts)
'Cos if you prefer a shoot-'em-up,
Or a puzzle game, this ain't your cup.
But though some bits are a little dull,
Bringing the action to a lull.
You'll appreciate the little break –
Rest your arms for the witches sake.

Cute is slightly overplayed, hence
The atmosphere isn't all that tense,
Thunder and lightning was a nice little touch,
But it really doesn't add that much.
Though don't let this hassle stop you trying,
You'll never feel the thrill of flying,
So get your wallet and stop that crying,
There was never a game more worth buying.

Graphically it's really hot,
There's no effect it hasn't got.
The scrolling – smooth, the movement – fluid,
On our little female druid.
And everything looks kinda cute,
A little too cuddly for you to shoot.
Far be it from me to point the gun,
But fill 'em in – it's really fun.

The music's also really cool,
With a quality that makes you drool
A catchy beat, a healthy swing,
That really complements the thing.
In game effects are brilliant too,
Stereo sounds hitting you
(If you own a Plus, that is,
But even if not, they're still the biz).

And then there's the bit that won't go away;
That eternal problem of good gameplay.
'Cos when all the flashy bits are done,
It's just no good if it's just not fun.
This game is big, I'm telling you.
Each time you play, there's something new.
And you're coming back more and more,
To a game that you will just adore.

You see, *Cauldron One* wasn't all that good,
And *Cauldron Two* a little dud,



Simply Red's 'Stars' is very popular, despite being tedious bourgeois coffee-table music.

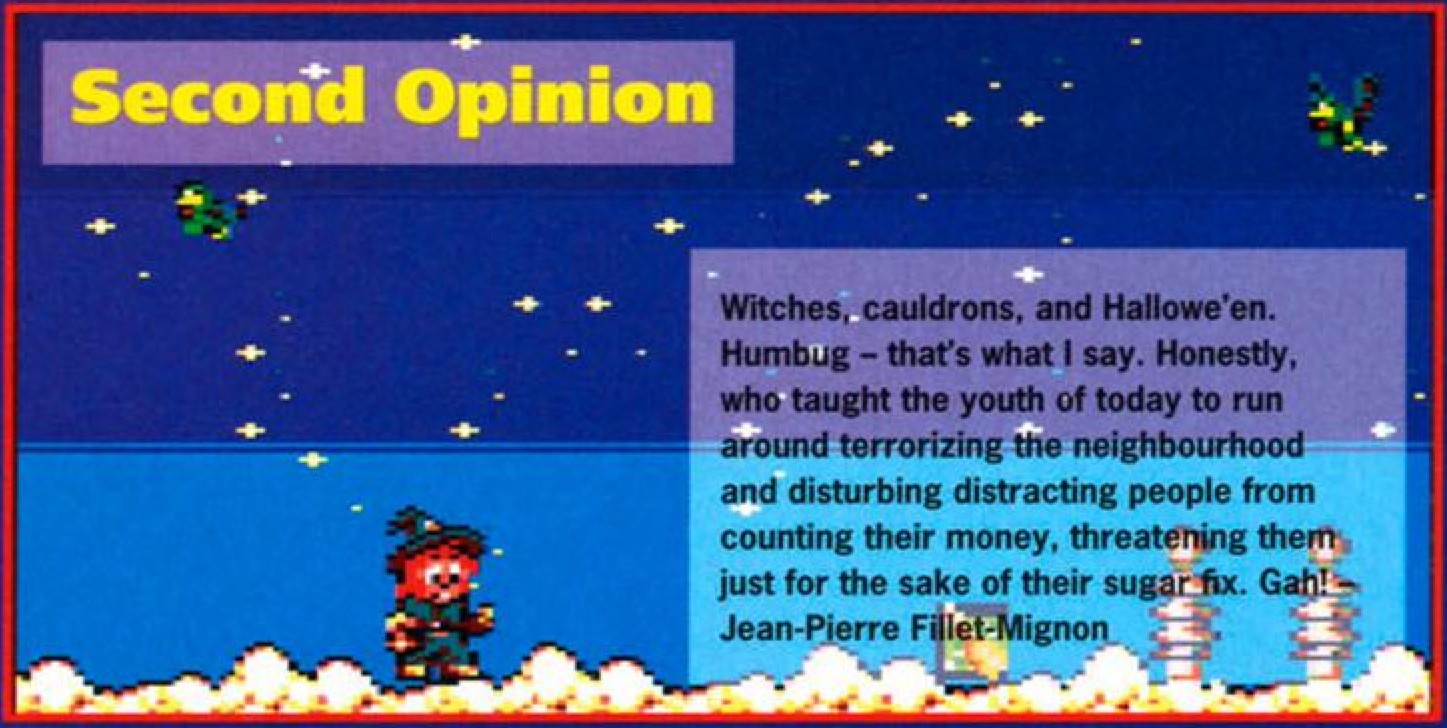


It's either a dragon or an exceptionally gymnastic alligator. Answers on a postcard.

And with commercial things the way they are,
Number three could be worse by far
But boys and girls, have no fear,
The wonderful *Super Cauldron*'s here,
With games like this we should be proud
To own a CPC – sing aloud!

You know, I'm really good to you,
To poetically write a game review,
That's fun to read and rhyming too,
Gotta go now – Toodle-oo. ●

Second Opinion



Witches, cauldrons, and Hallowe'en. Humbug – that's what I say. Honestly, who taught the youth of today to run around terrorizing the neighbourhood and disturbing distracting people from counting their money, threatening them just for the sake of their sugar fix. Gah! – Jean-Pierre Fillet-Mignon

VERDICT

GRAPHICS 95%
Some of the best graphics I've ever seen on a CPC. The overscan has been put to good use. Everything is smooth, well timed, and fluid.

SONICS 90%
Not as over-bowling as the graphics, but still absolutely incredible. Nothing's overbearing, and it's all used tastefully, and to good effect.

GRAB FACTOR 94%
Feel those little witch hands closing round your throat...

STAYING POWER 96%
...and dragging you ever closer to the monitor. Each time you play, you'll find something new.

I think I'm looking at one of the best games I've ever seen on the CPC. If ever there was a piece of software you should buy, this is it.

RATING 96%

WWF WrestleMania

The Hit Squad ■ 061 832 6633 ■ £3.99

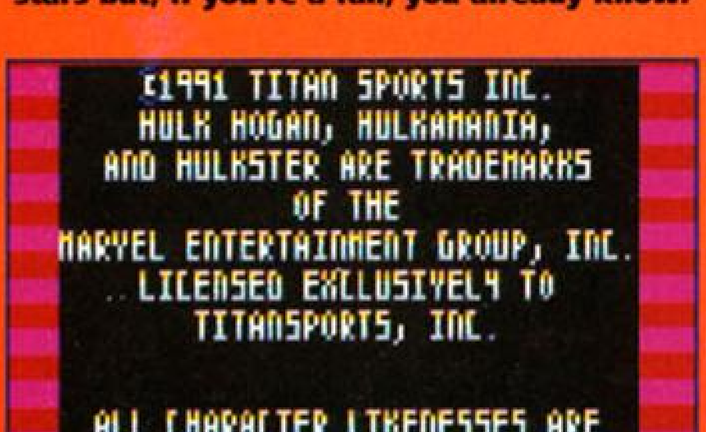
In his capacity as office media-junkie, Tim Norris™ was voted the person most likely to have a satellite dish and to know what WWF™ was all about.

WWF™ is the World Wrestling Federation™. It's American, so the 'World' bit actually means 'North American' (as in baseball's 'World' Series). It's American, so the 'Wrestling' bit actually means 'Wearing outrageous costumes and shouting catch phrases at the top of your voice and wrestling a bit every once in a while'. But The American Costume and Catch phrase Federation™ wouldn't really catch on, would it?

The wrestling chaps all have names like Hulk Hogan™, Mr Perfect™, Ultimate Warrior™, and British Bulldog™. They wear costumes appropriate to their names (sometimes) and they shout stuff like 'the British Bulldog™ is gonna take a bite out of the WWF™'™. You may have gathered from the liberal use of ™s that, as well as being a sporting entertainment, there's a lot of marketing and merchandising associated with the WWF™. Oh no, it's a licensed game.



There's plenty of information about the stars but, if you're a fan, you already know.



It's not just me being stupid, everything connected with WWF™ is a trade mark™.

It takes several weeks to load, and you'll be disappointed if you wander off for a cuppa and come back expecting it to have loaded, because you need to turn the blighter over.

As the loading proceeds, you choose which wrestler you'd like to be, and get involved in some name-calling with your first opponent. This is pretty much what real WWF™ matches are like. There's endless pre-bout shouting, posturing and abusing of TV commentators to be done before the actual business of beating one another up can begin.

Once the fun does finally begin, what you're actually left with is a rather ordinary beat-'em-up. You have a few wrestling-type moves (flying drop kicks, climbing up onto the posts, that sort of thing) added to the usual punches and kicks of an ordinary beat-'em-up. You get the chance to waggle your joystick in the grapples and you need to stab repeatedly at your fire button if you fall or you won't get up again.

I found that mostly I was reacting to the computer's moves rather than taking control of the play, but perhaps that was just me. Even after I'd been at it for a couple of hours I still felt I was just taking part in a WWF™ display, rather than actually competing. I'd punch and kick at my opponent and then suddenly find that he'd got fed up with that and had got a grip on me. A little joystick icon tells you it's time to get waggling but usually it was all too late (I was still concentrating on pummelling him). The all-important 'jumping on the other guy's head' move was particularly difficult to accomplish.

I made the mistake (only once, mind you) of changing my character after a bout. 'Rewind tape to start of side 1 and press fire' wasn't what I wanted to hear and didn't endear the game to me at all. I had to wait for the whole thing to play through from the beginning just to load a few bits of data about my new character. Oh dear.

Graphically it's not up to all that much. The characters look a bit like the real WWF™ chaps but the animation leaves a lot to be desired. It sounds appallingly bad.

It's a bit of a disappointment, really. It has elements of WWF™ that might appeal to devotees of the 'sport'. But it doesn't play all that well – it's not particularly enthralling and ultimately leaves you feeling like you might have been better off not bothering. ●



This is your man Hulk Hogan™ (whose real name is Terry) being kicked in the crutch.



And here he is having his head jumped on. It's not a particularly friendly game, is it?

VERDICT

GRAPHICS 53%
Average at best. The animation of the main sprites leaves quite a lot to be desired.

SONICS 24%
Utterly awful. Not sound FX so much as sad FX.

GRAB FACTOR 62%
Beat-'em-ups always appeal and this is no exception. Beating up computer opponents is fun.

STAYING POWER 45%
If you're a WWF™ fan you might come back for more. If you're not, you probably won't.

Another triumph of licence over substance. Hurrah for accountants.

RATING 43%

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Venture Forth

Ever wanted to write your own adventure game in BASIC? Sure you have. Well now's your chance. Tim Norris and Simon Forrester show you the way...

Adventures have come a long way, haven't they? When I got my first computer you pretty much had the choice between taking part in some dodgy Tolkien-esque gobbledegook (thou art mighty, master dwarf, with me come that we might slay us an orc or two, ha-ha-ha) or wander about in space for a bit (set primary throb drive to full overthrust). As time went on, things began to get slowly better and now adventurers can enjoy taking part in thrillers, murder mysteries and a wide variety of other exciting plots as well as all the traditional nonsense.

The healthy growth of adventures has meant that all manner of people have become involved in this mysterious world. Now you don't have to change your name to Gruntfuttock The Unwieldy and talk endlessly about slaying orcs to be a fully-fledged adventurer, nor do you have to wear dodgy spectacles held together with sticking plaster and talk in an irritating nasal voice to be an adventure writer. All you need is a bit of imagination, a pencil and paper, a working CPC, and us. Hurrah. Over the next few months we're going to take you through the design and programming of a complete adventure (albeit a very small one) without the aid of a safety net, entirely in BASIC.

What's it all about, Alfie?

What you need to start with is a concept – you need to have something for your game actually to be about. It can be anything your little heart desires and the only restriction is that the player has to be able to move about and solve puzzles on their way to some bigger objective. So, for instance, you could write a game about a fish finger factory, but it would only be worth playing if your adventurers were faced with an entertaining assortment of fish finger-related problems to solve on their way to producing the ultimate piscine digit.

Your concept doesn't have to be terrifyingly original – a pseudo-medieval land full of dragons and magic will work fine, if that's what you want – it's just somewhere to set your game.

Our adventure doesn't have to be entertaining or original, just easy to program, so it's going to be about doing the laundry.

Every farce tells a story

Once you have a concept, you need a plot (or at least the beginnings of one). You could conjure up the most wonderful new world for your adventurers, but if they didn't have anything to do you wouldn't keep them there long.

A plot can be as simple or as complicated as you want. It can be linear (ie only allow the player one way to proceed and solve the problems) or it can be open, allowing them to explore and solve things in their own way in their own time. The only rule here is that it has to be interesting. People have to want to play the game.

We're going to have to start thinking about what's going to happen in our laundry adventure. Obviously there's some washing to be done and we've got to do it. First we'll have to find it, then we'll have to find some means of taking it with us. We'll need some washing powder and some change for the machines. And we'll need to find our way to the launderette.

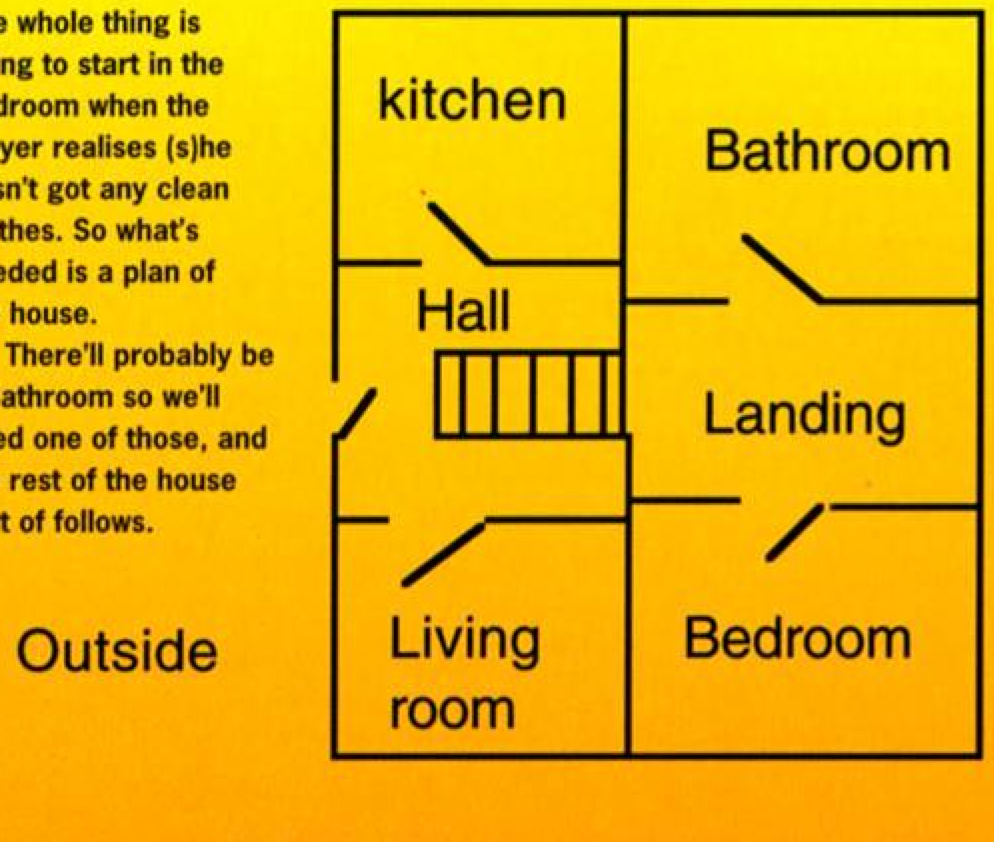
Start simple

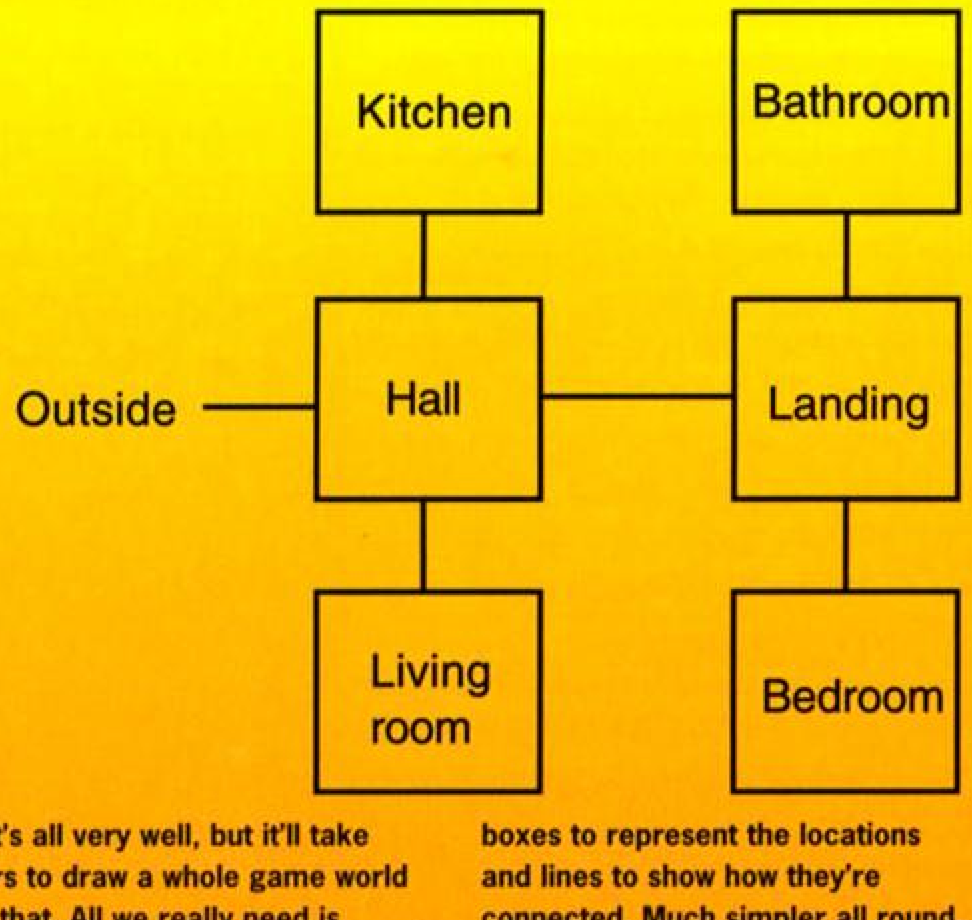
It's not very complicated at this stage, nor is it particularly well thought-out. That's just the way I write – I like to leave myself a bit of leeway so that new ideas can be slotted in as they occur to me. If you prefer, you can write a complex and detailed plot at this stage – it would certainly make the implementation of the game a lot simpler – but I prefer just to have a vague idea of what's happening and let it all find its own way.

I can't find my way home

The whole thing is going to start in the bedroom when the player realises (s)he hasn't got any clean clothes. So what's needed is a plan of the house.

There'll probably be a bathroom so we'll need one of those, and the rest of the house sort of follows.





That's all very well, but it'll take years to draw a whole game world like that. All we really need is boxes to represent the locations and lines to show how they're connected. Much simpler all round.

And talking of finding our own way, we ought to think about making a map. The bigger your game idea, the bigger and more complex your map will become, and you'll probably find that it grows in stages. It doesn't need to be a work of expert cartography, though, and a vague diagram will probably be all you need.

I 'spect it grow'd

Once you've begun to draw the map, ideas will come to you for puzzles and twists in the plot, and we'll be looking at some basic ideas for those later. You'll probably also find yourself thinking of other locations you'd like your adventurers to explore and if we extend the map to take in the whole of our game world we might end up with something like the diagram below.

What's next?

Next time we'll have a look at room descriptions and maybe get started on some puzzles.

Now it's over to Simon for the techie bit...

The techie bit

Welcome to the programming bit. The artistic version of the map that Tim's done is all very sweet, but to the programmer, it looks like this:

```
01-02-03-04
 |
05-06 07 08
 |    |  |
09-10+11-12
 |    |  |
13-14 15 16
```

OK, so it's not as pretty as the first drawing, but it's a lot easier to work with. As you can see, it's four locations by four, making 16 locations in all. The links joining the locations indicate access.

So why do we have a numbered map? Simple really – numbering the locations makes indexing descriptions (so room number one has description number one) really easy. The reason they're in strict order is simple as well. Pick any location. To travel north, simply subtract four (the grid width) from the room number you're at, and you've got the new room number. To travel south, simply add four, and east and west are achieved by either adding or subtracting one.

The grid is all very well and good in its current form, but that's all it is to a computer – a grid. For a computer program to understand it properly, its features must be in numeric form as well. As it happens, this map can be represented with 16 numbers, one number for each location. How? We use a simple binary (for reasons that'll become clear in a moment) system. With this game, in each direction, the pathway can be in one of four states – access, no access, a locked door, or an unlocked door. So let's number these states:

00 No access
01 Locked door
10 Access
11 Unlocked door

The reason for the particular order of the states is so that in all conditions, the first binary bit represents access, and the second represents whether there's a door there or not. Now, seeing as a standard 8-bit number contains eight binary bits, it can contain four 2-bit state numbers. So, location 11 has the following byte for its access number:

N E S W
10101001 = &A9 = 169

Having calculated the access numbers for each location, you can test the map with the simple program below. It starts you at location 1, and allows you to wander freely around the grid, displaying what doors are where, etc, as it goes. This is not a part of the main adventure, merely a testing system for your map, and your data. It is, however, similar in operation to the full program we'll eventually create – it just lacks descriptions, and all other features. It's not difficult to understand either – if you can handle this then you shouldn't have any problems with what's to come in the way of programming.

The descriptions will only be added when we've got a more workable program, which'll appear next month. Until then, try creating your own map and feeding into this program.

Next month, we'll be taking a look at the beginnings of the main program, with a parser (the bit that interprets what you type) and descriptions. ●

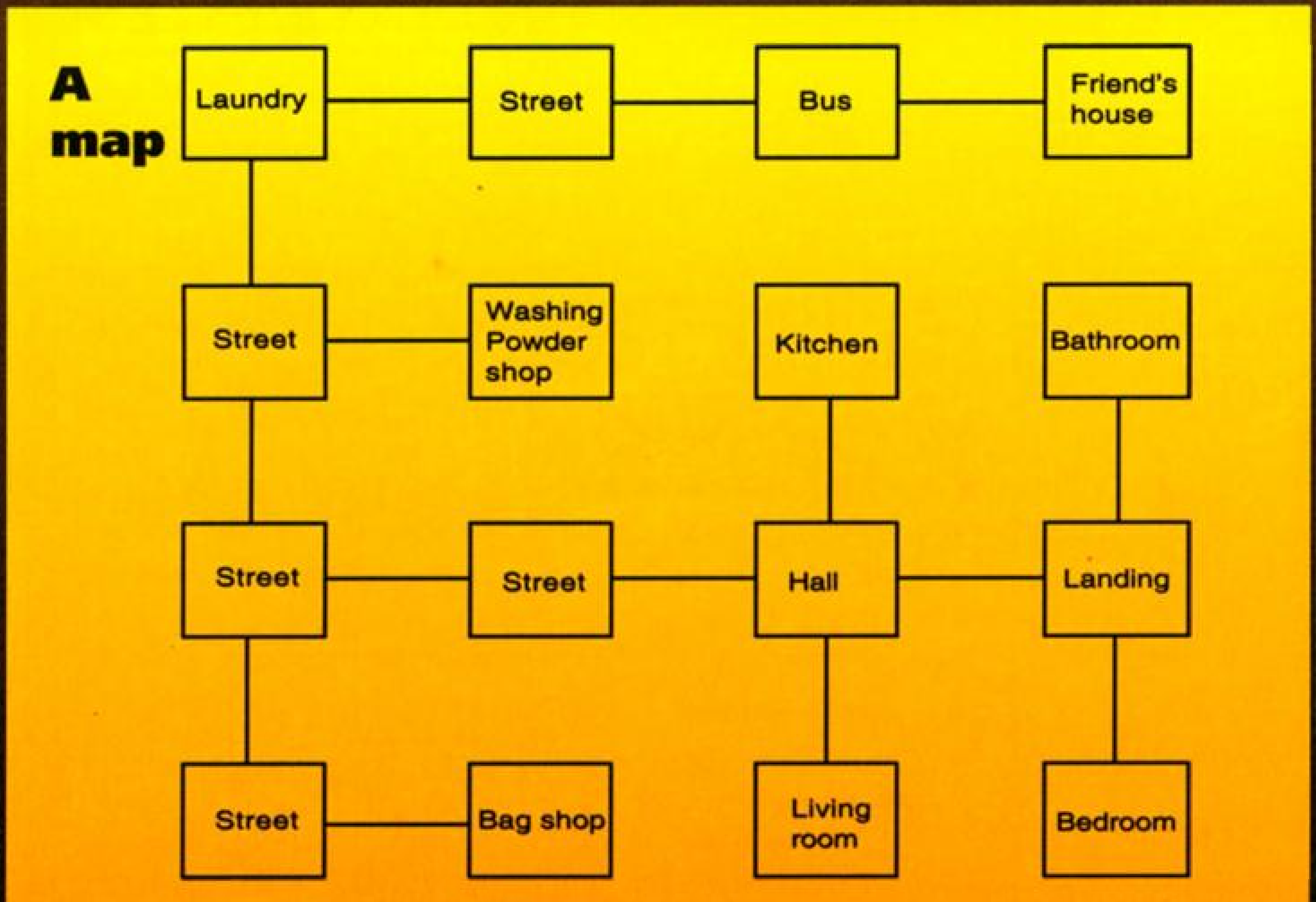
Map Tester

And here's the program to test the map we created this episode. The keys are N, S, E, and W to travel in the compass directions.

```
CAPJ 10·DIM·l(16)
DACK 20·FOR·a=1·TO·16
CAFE 30·READ·b$
DACH 40·b=VAL("&"+b$)
CACE 50·l(a)=b
CAGE 60·NEXT·a
CAOI 70·DIM·d$(4)
DAIH 80·FOR·d=1·TO·4
DACA 90·READ·d$(d)
CAEH 100·NEXT·d
BACM 110·l=16
CAJC 120·MODE·1
HADP 130·PRINT·"Location";STR$(l)
EADF 140·b$=BIN$(l(l),8)
DAGK 150·FOR·d=1·TO·4
EAFJ 160·PRINT·d$(d);":";
DADD 170·s=(d-1)*2+1
EADN 180·st$=MID$(b$,s,2)
JAEO 190·IF·st$="00"THEN·PRINT·"No·access"
KAEL 200·IF·st$="01"THEN·PRINT·"Locked·door"
IABO 210·IF·st$="10"THEN·PRINT·"Access"
JAHP 220·IF·st$="11"THEN·PRINT·"Open·door"
CAIH 230·NEXT·d
FAED 240·x$=UPPER$(INKEY$)
JANM 250·IF·x$="N"·AND·l>4·THEN·l=l-4:GOTO·12
     0
JAPP 260·IF·x$="S"·AND·l<13·THEN·l=l+4:GOTO·1
     20
JACP 270·IF·x$="E"·AND·l<16·THEN·l=l+1:GOTO·1
     20
JADN 280·IF·x$="W"·AND·l>1·THEN·l=l-1:GOTO·12
     0
CAKK 290·GOTO·240
GAAI 300·DATA·28,22,22,02,a8,02,08,08
HAEB 310·DATA·a8,12,a9,8a,a0,02,80,80
JABM 320·DATA·North,East,South,West
```

Small Is Beautiful

Now, you may be wondering why the map is only sixteen locations big. The answer is simple. We simply don't want to swamp you with a 256 location monster game, and make you loose sight of the actual point of the series, which is technique. The adventure is, however, modular – extra locations can be added easily, by simply scaling up the numbers. If you wish, you could design some monster game, but it's probably better to start off small for now...



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Reaction

Send your letters to: Reaction, Amstrad Action, 30 Monmouth Street, Bath BA1 2BW

A demand for reviews

What have *Dalek Attack, Desert Rats, Indiana Jones – Fate of Atlantis, Liverpool,* and *Street Fighter II* got in common? Well, they are all full-price Amstrad games which appear for sale in recent advertisements that have not been reviewed by Amstrad Action. Please could you tell me whether you will be reviewing these games in the near-future or give a reason as to why you have not reviewed them.

Eman Zaman
Addlestone

Don't you take that tone with me, my lad. What is the youth of today coming to?

As I read your list of games, I was able to think of at least one other thing all those games have in common – they haven't actually, in the sense of their being finished and available for review or sale, been released yet. As we go to press, none of them can actually, in the sense that you can exchange money for them, be bought anywhere (the fact that they're advertised for sale doesn't, necessarily, mean anything). As soon as they're finished we'll review them, and not a moment before. So there.

Mr Observant

It may just be me, but when I bought AA84, it cost £2.50, had 80 pages and had a nearly completely different team. What's happened? Did I hibernate for a year, or what?

Here are some questions:
1 What's happened to AA (including cover)?
2 Who produces *Lazer Squad, Captain Blood* and *Iron Lord* as I'm chasing these games.
3 I've lost track of Dizzy's adventures. I think a list is in order, please.
4 Anything interesting happened CPC-wise during my 6 month sleep?
5 During my hibernation I've gained a Pre-Computer 2000 – well worth it.

Simon Crabtree
North Allerton

1 What do you mean, 'what's happened'? There's still loads of stuff in it (although it's slightly more serious stuff), it's got a groovy covertape, and the cover is (as we've said before) pretty much the same as it always was (keen observers will note that the typeface used for the new logo is exactly the same as the old one). The team has, indeed, changed. I can't work out why these things happen. I was watching Blue Peter the other day and do you know, Val Singleton, Peter Purves and John Noakes were nowhere to be seen. What can have happened to them?
2 Lazer Squad *was by Blade and might not be very available.* Captain Blood *was by Infogrames, and is less available.* Iron Lord *was by Ubi Soft and might be slightly more available.*
3 Dizzy, Treasure Island Dizzy, Fast Food, Fantasy Island Dizzy, Kwik Snax, Magicland Dizzy, Panic Dizzy, Spellbound Dizzy, Prince Of The Yolkfolk, Dizzy Down The Rapids, Bubble Dizzy, Crystal Kingdom Dizzy. *This list was taken from the feature 'Dizzy: this is your life' in AA87.*
4 Yes. A new 32-bit CPC was launched in December with 5Mb RAM (expandable to 32Mb) and a built-in 80Mb hard drive. It was shipped with software that converted all old CPC software to fast-moving 256 colour, with full stereo sound. It was available only to AA readers and, unfortunately, the offer closed on 31 January 1993. Shame you missed it, but at least you've got your Dizzy games to keep you company.
5 Whoop-de-do, I must make a note in my diary.

Letter from Oz



If you want to know where the faulty batch of AA87 without the head cleaner ended up, it was Sydney, Australia.

Used to take ACU till it went out, as I only came across AA the once. But it has appeared again and I'm real chuffed about it as getting hold of game tapes here is a real problem. A bewt magazine and because of your write-up about the Amstrad NC100, *(That's the NotePad, short memory fans. – Ed)* my wife is as happy as a sand boy with her new word processor, never having used one, or a computer, before. We are both in our mid 60s, but we like to keep up with the young 'uns.

I particularly liked *Wriggler* (AA89) and I'm almost addicted to *Penguins.*

Thanks for a fine magazine – try not to go down the gurgler.

Eric Cox
New South Wales

Ripper, fair dinkum, bung a couple of snags on the barbie, cobber. I think that should just about cover it.

Mad as a tree

I have been a 6128 owner for six months now but have just one problem: try as I might, I can't find *Elite* on disc. I've tried many suppliers of software, but to no avail. Please, please can you help. Prior to purchasing my 6128 I owned a variety of other computers (BBC B, C64, etc) and Elite has always been my favourite game.
HELP! HELP!
Locate Elite please!
ON DISC!
Please Help!
HELP PLEASE

Martin Gaskell
Wigan

PS I think AA is absolutely wonderful – so are all of you – Rod's beard was awful. Will that do?

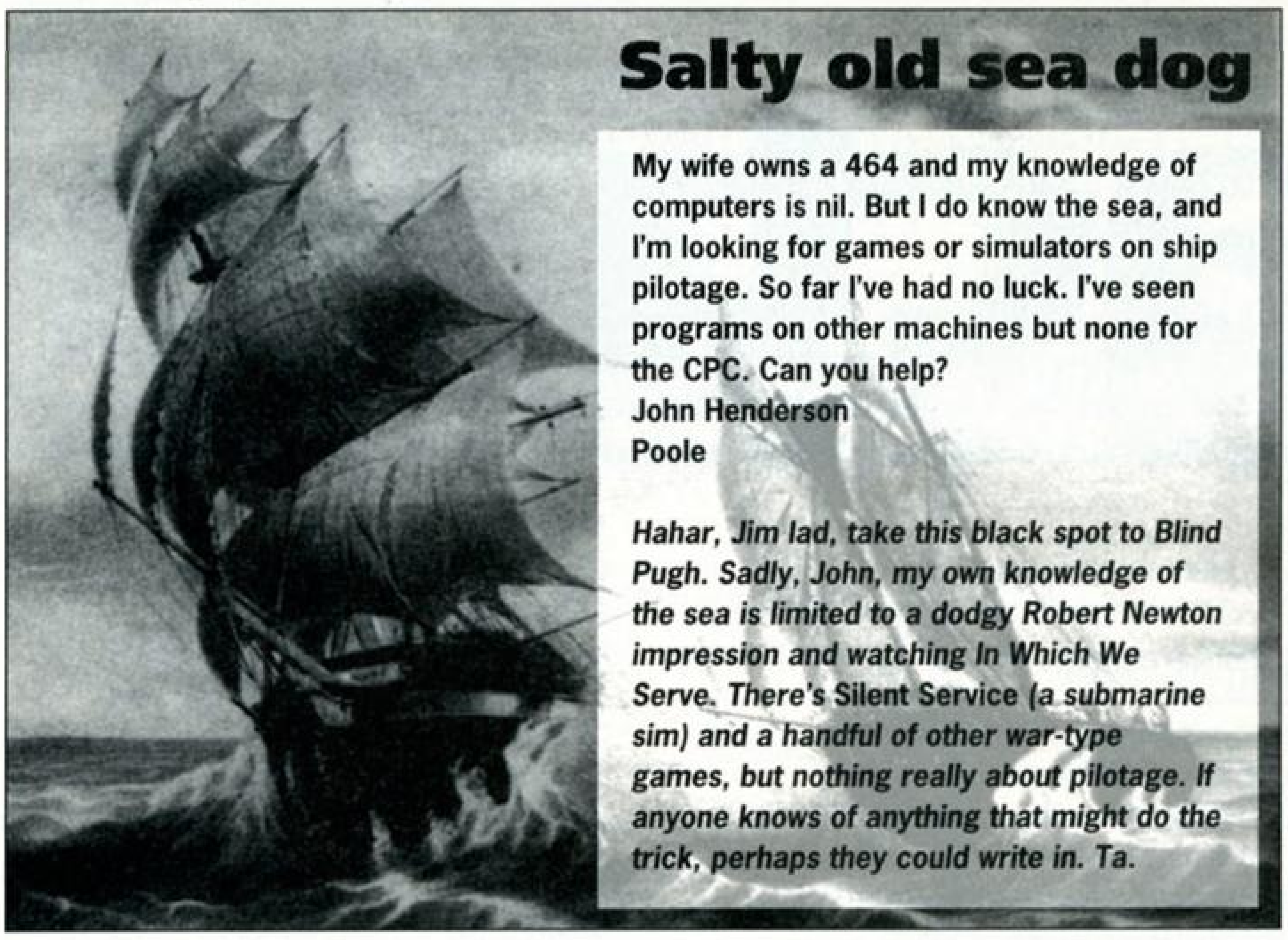
Lawks a lordy, don't some people get excited? Have a sit down and a cup tea. Relax. It's only a game, for heaven's sake. We're trying to get hold of Elite *for our* Classic Collection *(but don't hold your breath).*

Put in my place

Can you include an apology to C Hawthorne in the next AA for telling him that his Multiface 2 should be unplugged when playing *Lemmings*. It is common knowledge (it's in the MF2 manual) that the Multiface 2 can be 'seen' by some software. The Multiface 2 can be switched off so that no software will know it's there.

Press Reset (yellow button). Press stop (red button). Press R and the Multiface 2 will be invisible. Run *Lemmings* and see for yourself. *(Sorry, no time to play. – Ed)*

Why did you also say that the Multiface 2 wasn't needed with *Lemmings*? *(Because it's not NEEDED with anything. – Ed)* The disc version of *Lemmings* has a bug *(Er, except the disc version of Lemmings. – Ed)* and the passwords above



Salty old sea dog

My wife owns a 464 and my knowledge of computers is nil. But I do know the sea, and I'm looking for games or simulators on ship pilotage. So far I've had no luck. I've seen programs on other machines but none for the CPC. Can you help?
John Henderson
Poole

Hahar, Jim lad, take this black spot to Blind Pugh. Sadly, John, my own knowledge of the sea is limited to a dodgy Robert Newton impression and watching In Which We Serve. There's Silent Service (a submarine sim) and a handful of other war-type games, but nothing really about pilotage. If anyone knows of anything that might do the trick, perhaps they could write in. Ta.

level five don't work. A solution to the bug was printed in AA85 *(Oops. – Ed)* and since it's a Multiface POKE, how can you use it if the Multiface is unplugged?

Plugging and unplugging peripherals does your CPC no good at all and should be avoided.

The standard of technical replies in AA has fallen in the last couple of years. This is just one example. Please improve.

Michael Gerrard
Yeovil

Yes, Michael, at once. I'm almost completely guilty. In my defence, though, I stand by my assertion that you don't actually NEED a Multiface at all (notwithstanding the bug in Lemmings *which I'd completely forgotten) and, in fact, I've never used one for anything other than getting grabs of games for the magazine. I've only just started to learn Z80 machine code (Simon's teaching me – I originally learnt 68000) and I don't like to cheat at games so I have no use for the thing. Sorry.*

Printers 'n' Stuff

I have owned my Amstrad 464 for about eight years and in that time I've bought various bits of hardware including a DDI-1 disc drive, a Multiface 2 and, about one month ago, a Seikosha SP1900 plus 9-pin printer.

This is the first printer I've ever owned and I would like you to answer a few questions regarding printing in general.

1 I can save Multiface screens and re-load them but I don't know how to get them printed. Would a program such as *Colourdump 3* work on a mono printer? (I've tried loading them into *GPaint* with no success.)

2 The AA89 covertape had a fonts program. Is there any way to get my printer to use these?

Ian Truesdale
Craigavon

1 Multiface screen grabs include extra information which makes it difficult for ordinary graphics programs to interpret them. Colourdump 3 *will do the job, as would a Multiface decoder program which will knock them into shape and allow you to import them into a graphics package. Robot PD have one that'll do the job, contact them on (0572) 723572.*

2 No, sorry, there isn't. They're screen fonts, not printer fonts.

Buying a new one

I've got an Amstrad PCW and a Mega Drive, now all I want is a home computer suitable for good games – I chose the CPC.

1 Which is the best, the 464, 464 Plus, 6128, 6128 Plus, or 664?

2 Is this the last year to buy CPC games?

3 I've looked at adverts and when they say 'discs' do they mean 3" discs? If so, will they work on the PCW?

4 Which CPC has the most games available?

5 Is there a GX4000 console magazine available?

6 Where can I buy a CPC?

Rahul Gindha
Stirlingshire

Well, Rahul, it's like this:

1 Well, the best has to be the 6128 Plus, really. It gives you the big memory and disc drive and if you follow our simple upgrade project (AA92) you can add a tape interface as well. If you don't want to do that, then the 6128 will do you fine (most people end up wanting a disc drive, why not buy a machine with one already built in?)

Just Do It

Student success

I've had my CPC since 1986 and I originally bought it for serious applications (although I do have 150+ games) such as programming and word processing. This extended to DTP in 1990. To date, my most used discs are *Protext* and *Stop Press*. The CPC operating system and file system are a dream.

My faithful old DMP2000 is still chundering out diagrams, drawings and text *(What a delightful image. – Ed)* even after seven years of abuse and about 70 ribbons.

I've compiled assignments and written applications programs during my university course, even programs that couldn't (not wouldn't) work on a BBC Master. I can proudly boast of over 35 MBytes of information on 3.5" discs.

I've already worn out one 3.5" drive while the CPC's own drive just purrs on, and I've bought add-on ROMware and the brilliant application *PCTrans*.

Without *PCTrans* I would never have completed my final assignment which was laser printed via *WordPerfect 5.1*. Come to think of it, my class wouldn't have completed their assignments (I helped on several) either.

I recently bought an Olivetti Quaderno – the smallest PC I've ever seen (although it's a bit limited by its 8086 processor). I'm conquering QBASIC and porting ASCII files is a dream, but I defy anyone to take away my CPC.

My CPC is also making me money, the Quaderno has got a long way to go to catch up.

To Campursoft: I'll gladly buy one of your hard drive units when they're available (and when I've got some overtime money) as it'll be the ultimate jewel in an already overladen crown of what must simply be the best 8-bit home computer ever released (and I used to be a BBC fan).

Special thanks are due to you, ***AA***, for the excellent support to CPC owners everywhere.

Hip, hip hurrah × 3.

Keith Jamison
Belfast

A mere youngster

I'm 13 years old and I've owned a CPC6128 for four years. I've bought quite a lot of games in that time (but only the ones that get good reviews in AA). When I first got my CPC I wanted to use it for serious stuff (word processing, screen design) as well as games and I use a Star LC-20 printer to print my stuff out.

It wasn't long before I got into programming as well and I've been building my knowledge of BASIC, creating little programs for my own use. I've written a management program for adventure books, a word processor and an art program. My most recent attempt is a game called *Cyborg*, with simple graphics, a score board thing at the bottom of the screen and sound effects throughout.

I've had very few problems with the machine that couldn't be sorted out with a trip to the repairers and I think it's a brilliant machine which should definitely be kept alive.

I'm planning to move on to machine code soon and have learnt a lot from BASIC. I want AA to give the newest news on the CPC and lots of advice on problems. I really liked *Tasword* on the covertape and have used it quite a lot.

Umair Chaudhry
Banbury

Nearly what we wanted

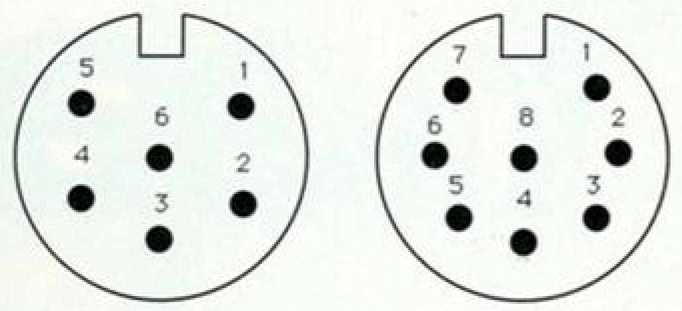
I wonder how many of your readers have a Mega Drive as well as their CPC and, like me, want to use the monitor for both systems. I've managed to work out the connections from the Sega machine and knocked a lead together for about two quid.

All you need is an 8 pin DIN plug, a 6 pin DIN trailing socket, and about a metre of 6-core screened cable.

John Driver
Swindon

Thanks, John, your letter came in just after we'd printed our request for details of a similar project for the SNES. As yet we've had no reply on that one. (I asked my SNES-owning friends but they didn't know).

Amstrad CTM 644 (6 pin DIN socket) | **Mega Drive (8 pin DIN plug)**



Amstrad CTM 644 (6 pin DIN socket)	Mega Drive (8 pin DIN plug)
pin 1 – red	pin 1 – ground
pin 2 – green	pin 2 – n.c.
pin 3 – blue	pin 3 – luminance
pin 4 – sync	pin 4 – red
pin 5 – ground	pin 5 – sync
pin 6 – luminance	pin 6 – n.c.
	pin 7 – green
	pin 8 – blue

2 Er... We have no way of knowing. There will be people around selling games for the CPC for as long as there are people to buy them. Even if all the software developers were to withdraw their support tomorrow there would still be plenty of games available from their back catalogues.
3 Yes, they're 3" discs. No, they won't work on your PCW.
4 Some games won't run on the 464.
5 Good heavens, no.
6 Scour the ads and reader ads in the mag.

Lead need

I was looking through the computer section at my local newsagents, desperately looking for an Amstrad CPC magazine – something which I have done every day since I got my CPC6128 some two years ago, without success. This time, however, what did I spy but an Amstrad Action hidden behind a pile of console mags. It shone like the summer sun through the gaps between Sonic and Mario and with trembling hands I lifted it and paid my £2.95 (which I'd been saving for five years). What an amazing mag, *(Thanks, you're pretty amazing yourself. – Ed)* full of everything you need to know about the CPC. So I felt that with this huge reservoir of knowledge *(And talent. – Ed)* you might be able to help me.

No one in Northern Ireland seems to stock the CL1 lead which is needed for an external tape player. If anyone reading this knows anywhere in NI which sells them, please get in touch.

Also, recently some Scottish person wrote in to say that there are computer shops in Scotland. Well we have them in Northern Ireland too. So there.

Samuel Campbell
Ballymoney

Astonishingly enough, we have them in England too. Why don't you try contacting some of the English computer suppliers that advertise in the mag?

Psychotherapy winner

I write with much happiness and joy, for I am in love. "In love with whom?" I hear you cry. "In love with Simon Forrester, the man with more hair than something very hairy." But I am not yet ready to come out of the closet, so I wish to remain anonymous. (But feel free to publish this so Simon feels better – he gets too much stick.) Love and kisses to my hairy honey monster

Loopy Lou

PS Tell Si I would love to be his hairbrush any time – all those tousled curls, grrr...

You are quite clearly mad beyond dreams of insanity. None but the most hopelessly deranged could ever possibly find Simon 'sorry I'm late everyone' Forrester even remotely attractive and we recommend that you seek help at once. Frankly, Lou, we're very worried about you. Oh, and he wears a wig. (No I don't. – Simon.)

Give it some stick

In the April issue there was a small piece in Amscene on the Foot Pedal. It says that it's ideal for driving games and that you can just use the joystick for steering.

Well, instead of using the joystick, there's a device which looks like a steering wheel, acts like a steering wheel and is, indeed, the computerised version of a steering wheel. It has small buttons for the accelerate and brake controls and gear change is obtained by flicking the steering wheel. Used with the Foot Pedal, this would make your driving and flight sims very realistic.

Stuart McMillan
Glasgow

I think you're talking about Nigel Mansell's Freewheel from Logic 3. That's the one that doesn't have a stand – you just hold it in the air and move it about. It's expensive (30 quid) and it takes some getting used to, but you're right, it does make things a bit more realistic (in a bizarre 'holding your steering wheel in the air' kind of way).

Can't see the wood...

I've been getting your magazine for A couple of years now and your covertapes have always loaded okay, But I've had some problems with the March tape.

The game is *Steve Davis' Snooker*. I tried to look for some instructions in the magazine but couldn't find any.

Can you please print some instructions in your next issue on how to load the game properly.

Arthur Patching
Ipswich

It must be that East Anglian mist, Art. On page five of the March ish, there's a big yellow box headed 'How to load your covertape'. Page four is given over entirely to Steve Davis Snooker. The third paragraph tells you everything there is to know about controlling the game and at the end, in VERY big letters, there's a summary of the controls. I'll admit there's a lot of nonsense in there and some pretty dodgy jokes but come on, Arty, have another look and then tell me you still don't understand.

One more time

I am a 464 owner that's in desperate need of your help. I live in Yeovil and I have a problem – my local games shop has closed down, so how do I get games?

Miss N S Andrews
Yeovil

Well, Miss N S, you're not alone by any means. This is the question we're most often asked so we've decided to print your letter along with what we consider to be the definitive answer.

Unfortunately, you're probably going to have to get all your games and other software by mail order. It's something not many people like doing, but mostly it's safe. Look through the mag. Look at the adverts. Find a company that sells what you're after. Use your own skill and judgement to decide whether they're any good or not (have they been advertising in the mag for a long time? that sort of thing). Phone them up or write to them. Order some stuff. They'll send it to you.

Sadly, correspondence on the subject of software stockists in your area is now closed. ●

Cheat Mode

And now, for all those of you that don't like playing games for yourself, here's Phil howard to do it for you.

Seymour Saves The Planet

Lee Rouane has found another great Keypress cheat, and once again managed to save the planet, this time, surprisingly, for Codemasters *Seymour Saves The Planet* – for infinite lives type CHEATING into the Hi-score table.

Elite

It's a long time since we had any tips for *Elite*, but it is a great game. Ian Mc Garvey of Dublin has sent us an 'experienced players' guide to the gold edition.

Extra keys Y – Cloaking device on/off (see mission selection)
F – Enter/leave Witch space (only when game is paused).

Extra equipment: ECM Jammer



It's Super Seymour. And he's saving the planet. Hurrah. Pity he spilled his drink.

Cloaking device (see mission selection)

Equipping your ship:

Start by buying a fuel scoop. This is invaluable during interplanetary travel as it enables you to pick up lost cargo in space which can be sold later. It also allows you to refuel your ship free of charge at any sun.

- Next buy better lasers. If you can't afford military lasers then buy the mining variety (don't bother with beam lasers – they over-heat too quickly).
- Then buy a docking computer to help you land on space stations, it also saves time.
- Now buy extra energy unit this is essential for the cloaking device or for extended battles.
- Energy bombs, escape capsules and galactic hyperdrives can then be bought in any order.

Fuel and missiles:

Try to keep your ship fully fueled or ensure that you have enough to jump to another system in an emergency. Try also to have at least 3 missiles but don't use them unless absolutely necessary as most traders and pirates are certain to have ECM systems.

Interplanetary travel:

Try to stay in an area with several planets which can be jumped to without having to refuel first – it may become necessary to escape a battle.

- To jump into witch space, first set the co-ordinates for a nearby planetary system (0.8 light years away if possible but no more that 3.0 light years) and start the countdown. When the countdown reaches between 7 and 4 press DEL now press F once, a beep will sound, unpause the game and engage the cloaking device (if you have one) and you will emerge in witch space. **NOTE:** be ready to fire when you arrive as there will be either 3 or 4 Thargoid battle ships which will immediately open fire.To leave witch space, simply repeat the procedure.

Missions

I have completed two missions in *Elite*. The first will only be given if you have a cloaking device, and involves destroying several space stations which have been taken over by the Thargoids. **NOTE:** You will have to jump to this system several times to complete it. An ECM Jammer will



The Ed's thinking of taking up golf. At the moment Leaderboard is as close as he gets.

be given to you to help destroy the stations. To destroy them, cloak the ship (Y) and launch all four missiles at the station when it is in range (don't cloak until it's in range as the energy drains very quickly). The station will explode and you must jump to a safe system as the surviving Thargoids will attack as you de-cloak.

Cloaking device

Can be obtained in Galaxy 8 and will be added to your weaponry once you have destroyed a fleet of Asps and Kraits, the asps will vanish and re-appear on the screen. An on screen message will confirm you have the device.

ECM Jammer

Is given at the start of the mission and will be retained for the game. It is only possible to use it if you have the cloaking device. To use it cloak the ship (Y), target and fire your missiles. The targets ECM not operate as long as you remain cloaked. If however you de-cloak before the missile reaches its target the enemys ECM (if it has one) will destroy it.

The second mission is to rescue the population of a space station from an exploding sun. When you arrive in the system you will have lost all your fuel due to a leak. Immediately refuel at the sun as you will not have chance later. Then travel to

the station and dock. Press 2 and a message asking you to rescue them will appear, If you answer Yes you will be given a galactic Hyperdrive which will activate when you press H after exiting the station. You must be quick as the exploding sun will destroy you.

Rewards

The title of ARCHANGEL is given for the first mission and valuable gems for the second.

Sim City

Town planning fans will be extra pleased this month as here are a few more tips for *Sim City* this time from Donna and Tony Parker of Sheffield.

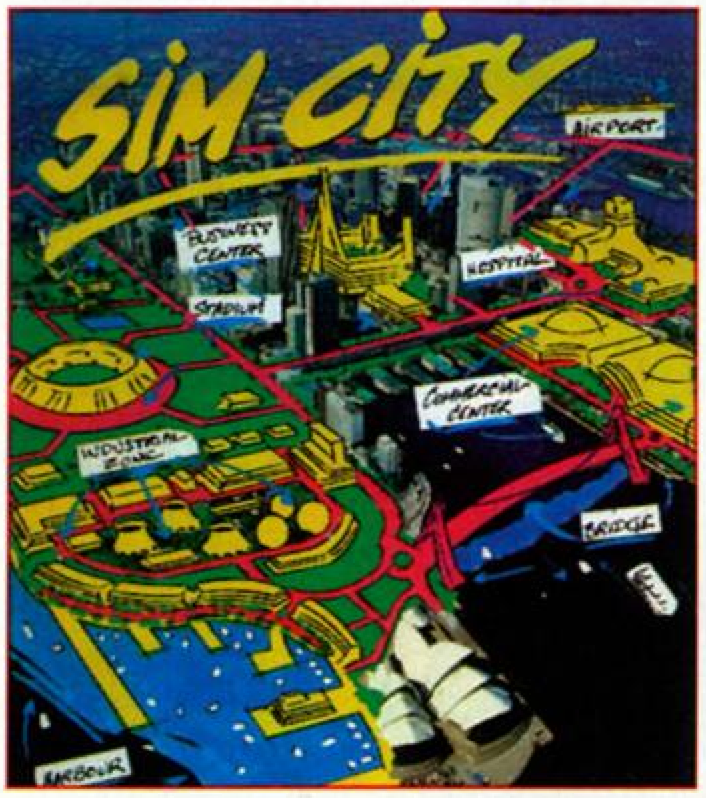
When playing the game at the start try to keep to the village category as it will keep your spending to a minimum. As the game progresses you will gradually work your way up to a city.

It's a good idea to choose your power station first, but opt for Nuclear, if you go for coal, when the city expands the power will short circuit as the residential zones only need half the amount of power as the rest.

Budget

For the Tax percent, keep it at 6-7% until December, then put it up to 20%. In January drop it back down again, this will help keep your cash flow out of the red. If you give the following percentage to be allocated you will find that you have sufficient amounts to stop problems arising. Transport – 90%, Police – 65%, Fire – 50%. You may find that the police and fire departments keep asking for more funds, but they always do, ignore them.

Always remember that if you put taxes up above 7% people will start to move so in the long run you will get less cash.



It's the original and best. Sim City set new standards for keeping people up at night.

Evaluation

You have to keep checking this every 3-4 months. The main thing to watch out for are unemployment, migration and house prices. The danger zone is 20%

Unemployment

Keep it down by placing more industrial zones in your city, only placing commercial zones when it asks for more or when others are completely full and the employment has risen in the industrial zones.

Migration

When the figures get to the minus side of 200, start to place more residential zones as this will help reduce the figures as more people move in. The migration may go up as you put the taxes up and people move out, but don't worry they will move back after January.

House prices

You can keep house prices down by demolishing trees near to any of the zones, and also by Not placing them near to water. Keep them away from Power stations as this causes pollution, and keeping them away from Industrial zones keeps the prices down. If your house prices do not rise over 20% and you have followed the instructions, don't worry as it is probably the time of year they will start to go down soon.

Remember to be patient, it takes a lot of time and waiting at first, but it will pay off in the end. Don't build everything all at once as you will soon run out of capital.

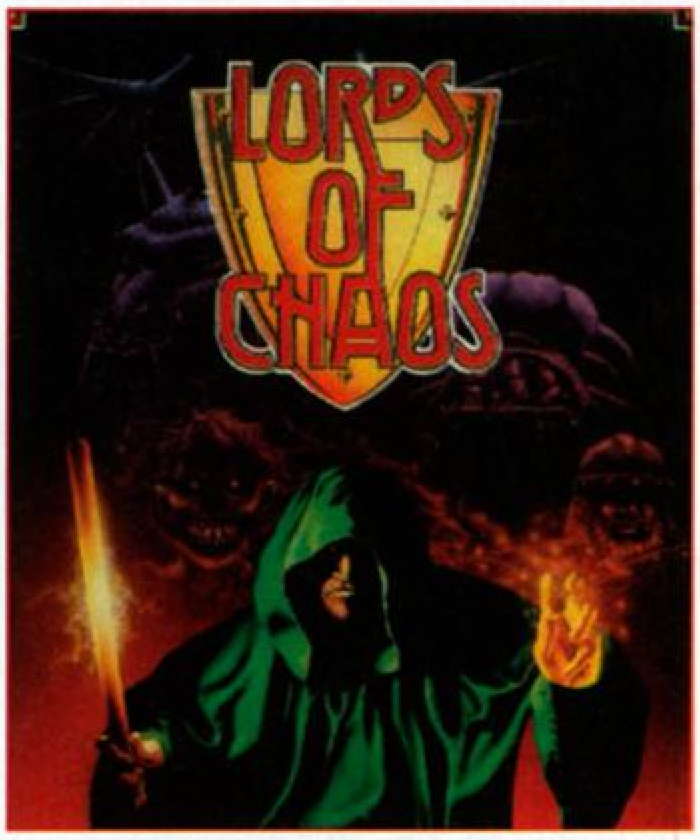
World Class Leaderboard

Stuart Mainland of Ayr has a tip to see you do a little better for your handicap on *World Class Leaderboard.*

Load course four (Gauntlet country club) and select the kids level (who does anything else?) when you get to the second hole do not move the cursor, select the 7 iron off the tee and hit the ball with maximum power and maximum slice. You should get a hole in one.

Auf Wiedersehen Monty

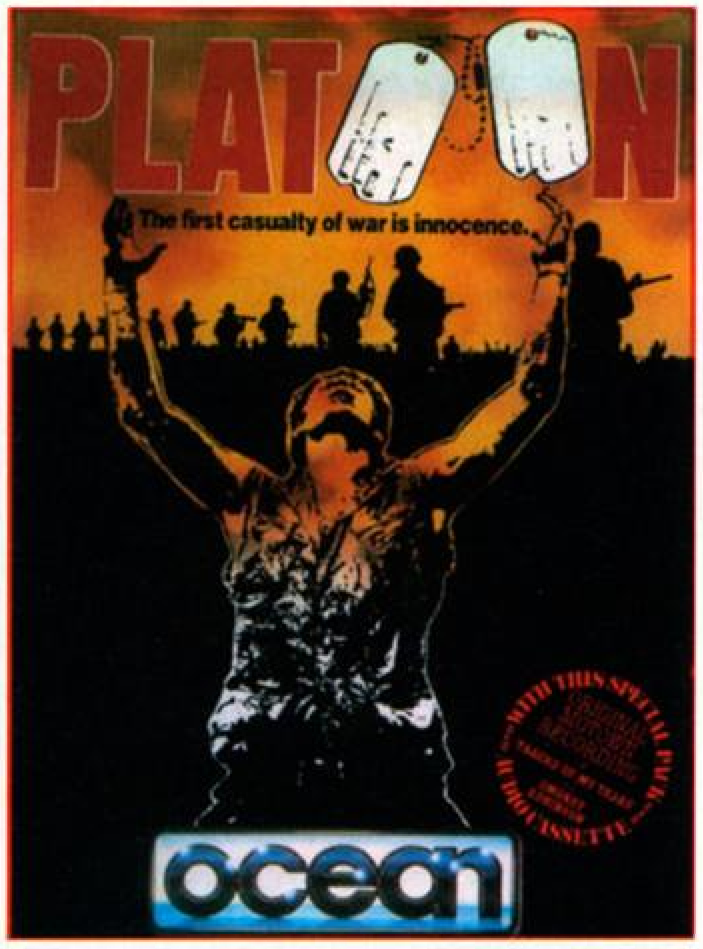
***Auf Wiedersehen Monty* has been sorted out by Angela Allum of Bracknell in the shape of a map and accompanying tips. There's no**



No wonder he can't see anything, he's got that huge green cowl over his eyes. Tch!

space for the map this month Angela so well see if it will fit later on, in the mean time here are the tips. Angela suggests that may be a built in cheat POKE 800,201 prior to loading, but doesn't say what happens (let me know!).

- There's no one way to solve this game, it means a lot of to-ing and fro-ing and planning, once you've had fun exploring it.
- Monty can travel upside down, you may need to press jump sometimes or just UP. When jumping gaps you have to experiment, Monty may make long or short jumps depending where you are.
- Don't expect Monty to be sensible after he's had a drink, his actions are a bit random, wait until he gets over it. There's a bottle in Italy above Rome which could cause a disaster unless you are planning to go to Rome
- Some ways are one way only, some you can go both ways. If you see a passage leading off the screen then it's worth exploring, that's the way to get the plant pot. Remember, Monty's a Mole – he can burrow through some of the reddish earth, that's how you get to Praha, where the Bacon has to go.
- You can only carry four things at once, this means you have to plan what to do. The wine can be collected at Brest and taken to Dortmund, the tools collected and the lift fixed (jump over it to prevent being taken for a ride), both without air tickets.
- The 'naughty airports' in Praha and Yugoslavia will take ALL your tickets and send you nowhere if you try to use them. There's a good airport in Yugoslavia (just under Zagreb) which will send you to Rome. From Olympus you can fly to Bern, from Moledavia to Copenhagen.
- You only need to go to Sweden once, so you can use the ticket from there and bring the steering wheel for Monaco. Once you are in Antwerp or Nancy you can only get back to/ past Paris by flying (if you want to get back to Nantes,



In Oliver Stone films do you find you don't really care about any of the characters? I do.

Dijon, Spain, etc.) from Amsterdam or Spain.

- From Bonn you fly to West Berlin then walk across to East. The only ticket in this block is in East Germany. East Berlin sends you to Yugoslavia. That's the only way to get from France and Germany to Italy, Yugosalvia and Greece. Take two tickets when you go to Berlin.
- You can't go UP from Rome or up to Bern (so don't rely on going down to get a ticket from below). Also you can't get Up from Staying Greece to Moledavia.
- The pot plant has to be taken to Amsterdam, touch the little man in the water he will exchange it for a tulip. The Mona lisa has to be taken to the 2nd Itsa Daboss (left from the 1st one). Touch the moving yellow grill. The football must be taken to Juventus.

Lords Of Chaos

£20 winner

Martin Grimley (and his sister) of Darvel in Scotland have sent in some tips for the mystical game *Lords of Chaos*. First he suggests that you type in Graham Smith's cheat from AA66, not a bad idea.

Level 1

- The basic tip for this level is to corner Torquemada at the Giant spider room with Gold Dragons and Vampires.
- I usually cast up pixies and steeds for all plus one for mr Wiz. Then take everything in the house and exit next turn.
- Don't re-close doors in the starting house as he probably knows you're there anyway!
- Look about the Big map for open doors on your second turn to locate Torquey.
- Over the next few turns cast up dragons and vampires to counter the two he casts up.
- Torquemada doesn't have any dragons, but he will hide all the dragon herb from you. He hates the sight of your dragons and will make his way to the giant spider room.
- Look out for centaurs as most of these computer wizards like them.
- Steal his protection potions with an un-mounted pixie armed with vials, this really ticks Torquey off!
- One house has a chest, the other has potions and weapons. Look out for chests in Magic Wood and Shadow Wood. Never stay out in the open in case and independant giant spider sees you.
- When the portal appears place an undead on it and watch the spiders head for it.
- It helps if you look around for keys to open the chests for maximum experience at the end.
- Don't spend action points looking for door keys, L8 magic Fire on the trees around the walls destroys all.

Levels 2 and 3
(less exciting, harder to explain)

- Cast up three gryphons and some creatures to carry things that can also ride mounts.
- Clear your starting square and again look for open doors and centaurs.
- Sometimes you will encounter his L3 Dwarf which you can easily sort out. A goblin, demon giant bat are usually cast up after this, these can also be easily wiped out by magic bolts L8,7,6,5 etc. along with magic lightning.
- He never casts up steeds so he will be easy to kill, although he does drink a protection vial.
- On looking at the map you will find 3 adjacent corridors with 2 doors each. The middle one has nothing, but the outer ones have independant spectres and components.
- Carrying on up you'll see a room with lava. This is locked as is the chest inside where a demon awaits you.
- A locked room above a starting point houses 2 vampires and chests.
- Be careful of dungeon things, as they are invisible and always start in rooms. They are mean and strong but can't hit undead, and most certainly hate magic bolt L8.
- You can corner Elbo Smogg really easily in a corridor next to his starting point (small corridor next to the right of the lava flow). It has 3 zombies which are a bit difficult if you forget they are magical. They can easily be killed.

Level 3
(the shortest)

- The lair is all corridors and traps. Watch out for the stupid centaurs and goblins. The smallish room above your starting point has weapons. To avoid the traps here's what to do:

1) Stay away from the middle squares in the corridors with the candles on the corners.
2) Don't leave anything valuable on the table.
3) Across the chasm a giant and a troll are both armed with magic bows, subverge one and use the bow to kill the other.
4) If you manage to get outside his complex (escaping through the wood room etc.) watch out for his vampires and harpies.
5) A room in the maze has 3 door through 3 separate walls, these contain more zombies.
6) The massive room in the centre with 4 portals is where Ragaril starts. Don't think you can just teleport in there and start fighting, he has lots of nasty wiz-killing tricks, so cast up a magic sheild and then try (if you dare!).
7) The room with the table has 3 doors, one has a spectre, one has a chest, and the other sometimes changes. The chest is in the middle, but you'll need a key to open it.
8) To collect the gold inside the green fire, go in with your wiz on a steed, take it and teleport out.
9) Watch out for portals that let his denizens come to you. Pixies are sometimes sent through.
10) You can only set the wood room on fire, and 'Blob&vine don't work (?).

- Pixies don't always do what you expect but you always lose action points.

Platoon

***Platoon* is a game that cheats are always being requested for, probably because it's so difficult! Happy to oblige is Paul Williams from Broomhall who has done one of his complete pokes for the game, the only problem is that you will need a multiface to be able to use them.**

Part 1 – Choose your man.

Address	Poke	Effect
man 1		
9E00	09	9 grenades
9E01	90	144 ammo
9E02	00	resets lives
man 2		
9E03	09	9 grenades
9E04	90	144 ammo
9E05	00	resets lives
man 3		
9E06	09	9 grenades
9E07	90	144 ammo
9E08	00	resets lives
man 4		
9E09	09	9 grenades
9E0A	90	144 ammo
9E0B	00	resets lives
man 5		
9E0C	09	9 grenades
9E0D	90	144 ammo

9E0E	00	resets lives
0099	FF	Allows 255 grenades in previous
009D	FF	Allows 255 ammo in previous
1071	00	Inf Morale
135A	00	Inf lives
120C	00	Leaves you with man 1
1256	00	Stops 'Killed in action' on menu

Part 2 Tunnel

0BE4	00	Inf lives
04DC	00	Inf morale

Part 3 Bunker

9E16	00	Flares=0 loads next level

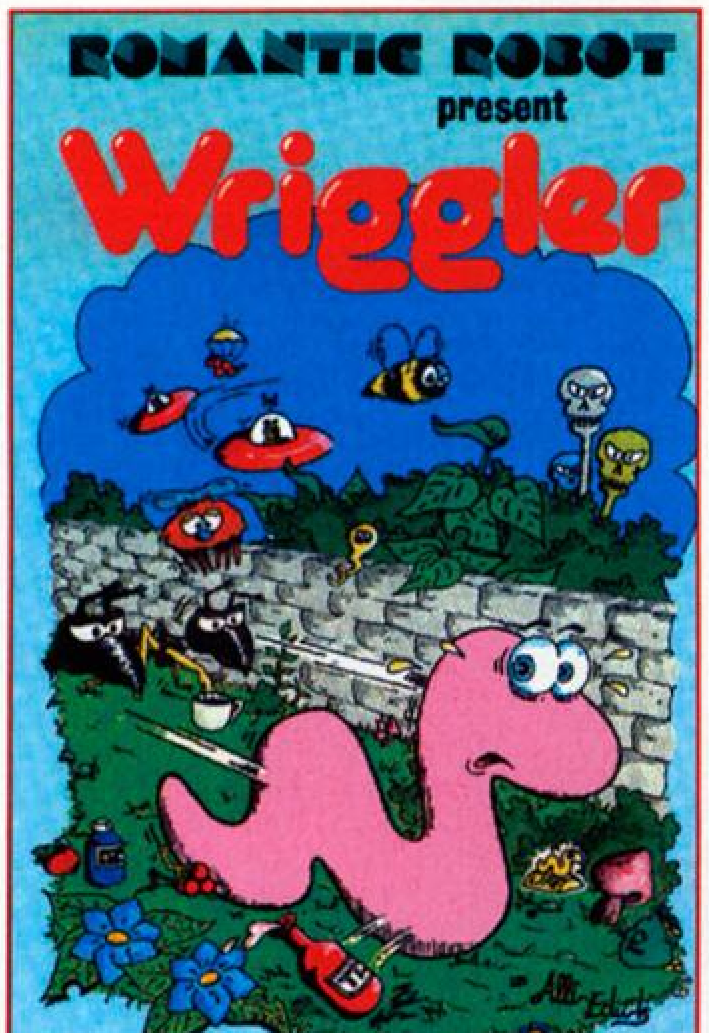
Part 4 Jungle

100D	00	Inf lives
161f	00	Inf morale
9E00	FF	255 grenades
030B	09	9 mins
030C	59	59 seconds

Quattro

How about a POKE listing for *Quattro*, then?

```
FAMO 1·'·2·Quattro·Packs
NAHE 2·'·Quattro·Fantastic·&·Quattro·Sports
LAKN 3·'·The·games·which·can·be·poked·and
NAOI 4·'·which·derive·benefit·have·been·done
AAMH 5·'
KAOI 6·'·Pro·Golf·has·also·been·poked
AAOH 7·'
EAJF 8·'·by·ANDY·PRICE
```



My hat, it's a pink worm! Love it or hate it, you've certainly got it. It was on a covertape.

The Multiface way

The (t)s and (d)s before the address indicate whether the poke was written for a tape or disk game (they might work on both, its worth a try).

Here's a quick guide to using those Multiface POKEs:

a) Load the game as normal.
b) Press the RED button on the MULTIFACE.
c) Press 'T' for tool.
d) Press '*' to select the code.
e) Press 'H' for HEXADECIMAL input.
f) Press 'SPACE' for input.
g) Type in the ADDRESS (4 characters ie 3A7C)
h) Type in the POKE (2 characters ie. A7)
i) Press 'RETURN'
j) If there is more than one poke goto (f)
k) Press 'ESC' back to the menu.
l) Press 'R' return to the game.

```
AAAI 9·'
BBAB 10·MODE·1:PRINT"···Quattro·Fantastic·&·Q
     uattro·Sports"
LADE 20·LOCATE·11,2:PRINT"Also,·Pro·Golf·Sim!
     "
IAFO 30·LOCATE·14,4:PRINT"by·ANDY·PRICE"
OAHJ 40·LOCATE·10,7:PRINT"1.·Fruit·Machine·(F
     antastic)"
PACA 50·LOCATE·10,9:PRINT"2.·Pro·Ski·Simulato
     r·(Sports)"
PAPH 55·LOCATE·10,11:PRINT"3.·Pro·Golf·Sim·(o
     riginal·game)"
GCBI 60·LOCATE·1,23:PRINT"I·would·poke·as·man
     y·new·games·as·poss":PRINT"IF·only·I·cou
     ld·get·them·from·someone···············
     (Hint·AA)"
CBMJ 65·LOCATE·1,18:PRINT"The·other·games·wer
     en't·worth·poking"
IAPM 70·LOCATE·10,13:INPUT"Option>·",n
KAFO 80·ON·n·GOTO·100,400,800::PRINT·CHR$(7):
     GOTO·70
FAHN 100·'·Fruit·Machine
EAOM 110·DATA·2a,38,bd,e5
EAEM 120·DATA·ac,e1,22,2c
EALM 130·DATA·be,ad,21,37
EAFN 140·DATA·bd,3e,c3,77
EAEE 150·DATA·23,3e,23,77
EAHK 160·DATA·3e,be,23,77
EAFD 170·DATA·21,40,00,e3
EANF 180·DATA·11,00,bb,00
EAOP 190·DATA·c3,4a,3a,af
EACK 200·DATA·32,3f,73,ee
EAOM 210·DATA·41,ee,50,cf
DACP 220·DATA·00,00,00,00
FADK 230·DATA·ff,ff,ff,ff
DAMI 240·RESTORE·110
FAHH 250·FOR·x=&BE00·TO·&BE34
FAPJ 260·READ·a$:a=VAL("&"+a$)
HAFP 270·POKE·x,a:chk=chk+a:NEXT
GACC 280·IF·chk<>&168A·THEN·310
FAKF 290·MEMORY·&2FFF:LOAD"
CAMP 300·CALL·&BE00
HAFF 310·PRINT"Error·in·poke"
CADN 400·'PRO·SKI
FAJH 410·DATA·F3,DD,21,00,BF,11
FACH 420·DATA·47,00,CD,67,BB,21
FADJ 430·DATA·2C,BE,22,44,BF,C3
FAHF 440·DATA·00,BF,21,40,00,E5
FAEI 450·DATA·21,00,BB,E5,C3,E9
FAAG 460·DATA·3A,3E,45,32,4B,00
FACH 470·DATA·3E,99,32,4E,00,F3
FAPG 480·DATA·F1,C9,AF,21,00,00
FABK 490·DATA·22,EC,7C,22,EE,7C
FAFI 500·DATA·22,CF,7C,22,D1,7C
FAFI 510·DATA·22,C1,7C,22,DE,7C
FAHI 520·DATA·C3,AB,7B,4A,41,59
DAFJ 525·RESTORE·410
FAJD 530·MEMORY·&5000:LOAD"!
FAHI 540·MODE·1:POKE·&3A76,&C3
DAKN 550·POKE·&3A77,&1F
DAMO 560·POKE·&3A78,&BE
DACN 570·POKE·&3B22,&4B
FACF 580·FOR·I=&BE00·TO·&BE47
FAFE 590·READ·A$:A=VAL("&"+A$)
FANL 600·POKE·I,A:S=S+A:NEXT
GAHI 610·IF·S=7940·THEN·CALL·&BE14
FAAN 620·PRINT"DATA·ERROR·!!!"
EAEN 800·DATA·2a,38,bd,e5
EAPM 810·DATA·ac,e1,22,a9
EABN 820·DATA·be,ad,21,37
EALN 830·DATA·bd,3e,c3,77
EAJH 840·DATA·23,3e,a3,77
EANK 850·DATA·3e,be,23,77
EALD 860·DATA·21,40,00,e3
EADG 870·DATA·11,00,bb,00
EAFN 880·DATA·c3,4a,3a,3e
EAMH 890·DATA·18,32,7a,4c
EAAG 900·DATA·cf,00,00,00
DAGJ 910·RESTORE·800
FAPJ 920·FOR·x=&BE80·TO·&BEAB
FADK 930·READ·a$:a=VAL("&"+a$)
GAPH 940·POKE·x,a:y=y+a:NEXT
FAEH 950·IF·y<>&10D9·THEN·980
FABK 960·MEMORY·&2FFF:LOAD"!"
DABB 970·CALL·&BE80
HAIL 980·PRINT"Error·in·cheat"
```

Wriggler

```
HAAI 1·'····WRIGGLER·(tape·23)·CHEAT
LALK 2·'255·lives·AND·perminant·Ant·Spray
FAPM 3·'········By·PAUL·HORNSEY
AALH 4·'
HAJJ 10·DATA·3E,AD,32,55,87,3E,00,32,56,87
HAJK 20·DATA·CD,10,81,3E,BA,32,4D,00,3E,00
HACJ 30·DATA·32,4E,00,C3,40,00,3E,FF,32,08
HAFJ 40·DATA·81,3E,34,32,01,A6,32,1A,A6,3E
FAAO 45·DATA·1D,32,D7,93,C3,D2,80
GAMM 50·t=0:s=&A0:FOR·c=s·TO·&CE
HAEK 60·READ·p$:x=VAL("&"+p$):t=t+x
HAGH 70·POKE·c,x:NEXT:MEMORY·&7000
EADP 80·IF·t<>4125·THEN·120
BBDB 90·MODE·2:PRINT"WRIGGLER·(tape·23)·CHEAT
     ··-(·BY·Paul·Hornsey·)-"
CBHH 100·PRINT·"(Enter·(tape·23)·then·load·Wr
     iggler·as·normal.)"
FAED 110·LOAD"MENU":CALL·s
GAAG 120·PRINT"ERROR·in·DATA!"
```

And that's yer lot. Send all your cheaty stuff to: **Cheat Mode, Amstrad Action, 30 Monmouth Street, Bath, BA1 2BW.**
We might even bung you a few quid for it. ●

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● **And another thing** Why do you always leave this room in such a mess? Can't you tidy up once in a while?

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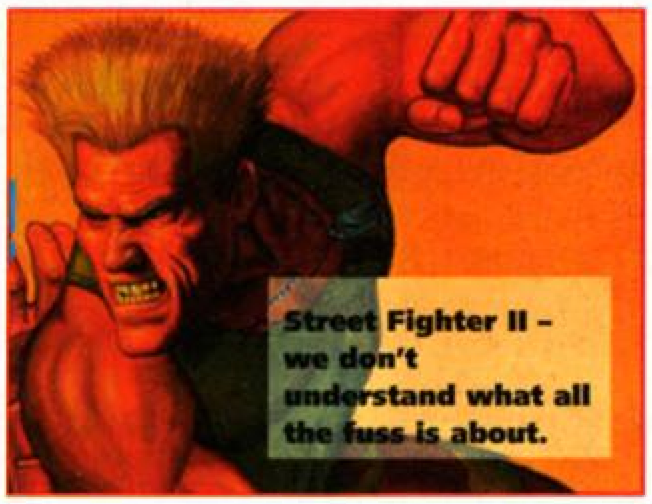
Next Month

At all good newsagents...

Ice Ages...

Dinosaurs evolve and die. Majestic plateaus of ice rise, and melt under the solar glare of the harsh nuclear sun. Aeons pass. *Street Fighter II* still entirely fails to arrive.

Or does it? The last we heard was that it was nearly ready and that we'd have a review copy 'soon'. Don't give up.



Street Fighter II – we don't understand what all the fuss is about.

Prehistoric...

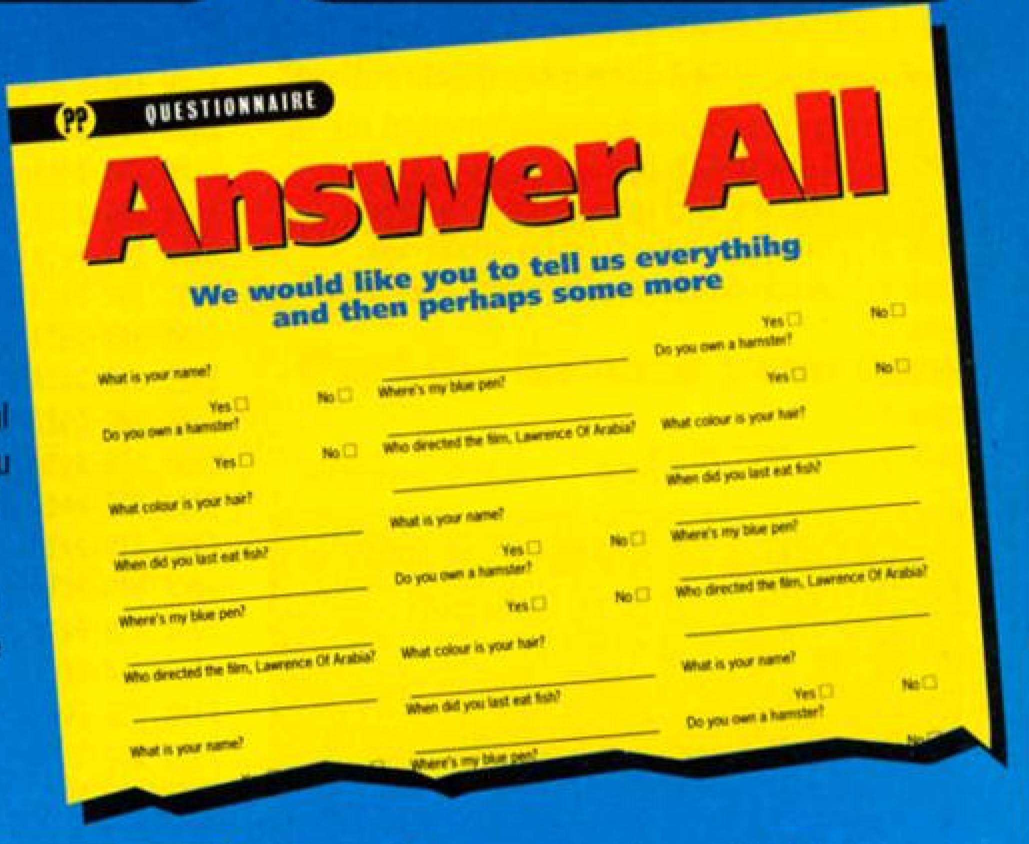
Elmar returns once more, with the console quality *Prehistorik II*. We've already seen a preview version and it looks nearly impossible – we would never in our wildest dreams have believed we'd see parallax scrolling on a CPC. Not with a decent game attached, anyway...



Who are you, anyway?

It's time we had a really good rummage around in your personal life and found out exactly who you are and what you want. What we need is a Reader Survey.

Everything we ever wanted to know about our readers but were afraid to ask...



Re-releases...

And, just because we love you so much, we'll also be taking a look at two hot new re-releases (ahem), *Darkman* and *Skull & Crossbones* from Hit Squad.

Are we lovely, or what?



For the poverty stricken...
More free software reviewed in the ever-popular Public Image column.

For the baffled...
More of that Technical Forum-type stuff.

For the adventurous...
More of that Venture Forth stuff. Delve deeper into that adventure-writing thang.

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